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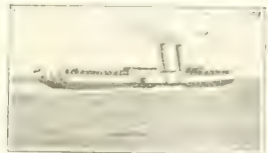
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 and Auditors for the ensuing  
 year.

Secretary's Office,  
 Derby, July 1st, 1913.

**The Great Northern Railway Company**

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**East Indian Railway Company.**

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By Order,  
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**The Great Indian Peninsula Railway Company.**

General F. J. Roberts, Chairman of the Company,  
 in the Chair.

Resolved: That the Report of the Directors,  
 as presented to the Chairman, be adopted by Henry

Resolved: That Colonel F. F. Roberts and H.

Resolved: That Wilson, Keith, Esq., and

It was moved by the Chairman, seconded by  
 Alexander H. Campbell, Esq., and

Resolved: That the Board of Directors, to Major  
 H. A. L. Roberts, the Chairman, and to the Board of  
 Directors, and also to the Home Staff for their  
 services during the past half-year.

Major Henry F. Roberts, Esq., and

Resolved: That the best thanks of the Man-  
 ager and Directors for their attention to the

FRED. FIREBRACE, Chairman.

Resolved: That the best thanks of the Man-  
 ager and Directors for their attention to the

should be addressed to THE RAILWAY TIMES, 12,  
 Norfolk Street, Strand, London, W.C.

**TENDERS INVITED.**

**Manchester Ship Canal.**

THE Manchester Ship Canal Company are prepared to receive tenders for the supply of the following stores required during

1. Iron, steel and files.
2. Ironmongery and nails.
3. Oils, tallow and candles.
4. White lead, pitch, soap and soda.

5. Brushes.

obtained on and after Monday, the 7th day of July.

Decks, Treadboards, Scaffolds. Intending Contractors are requested to particularise the Class of Stores for which they wish to tender.

Sealed Tenders, enclosed "Tender for

to be sent on Friday, the 11th day of July, 1913.

enclosed with the tender when sent in.

F. A. EYRE, Secretary.

11, Spring Gardens, Manchester.

**London-India Office.**

THE London-India Office is prepared to receive tenders for the supply of the following stores required during

1. Staples and Crossings.

H. J. W. FRY

July 2, 1913.

**Commonwealth of Australia.**

TENDERS will be received until

August 1, 1913, at 72, Victoria Street, S.W. The charge for

**THE METROPOLITAN CARRIAGE, WAGON AND FINANCE COMPANY, LTD.,**

INCORPORATING  
 Patent Shaft and Axletree Co., Ltd., Docker Bros., Ltd., and  
 the Willingsworth Iron Co., Ltd.

IRON AND STEEL UNDERFRAMES, WHEELS, AXLES,  
 AND EVERY DESCRIPTION OF ROLLING STOCK,  
 PRESSED STEEL BOGIE TRUCKS, The "Brunswick" Weldless Disc Wheel.  
 BRIDGEWORK AND ROOFS, DOCKERS' SUPERIOR VARNISHES, PAINTS,  
 and FINE COLOURS, for all Climates.  
 Dockers' "Hermator" Paints for Structural and all classes of Engineering Work.

Reg. Offices, SALFORD, BIRMINGHAM. London Offices, BRUNSWICK HOUSE CENTRAL BLDGS., WESTMINSTER, S.W.  
 Telegrams "METRO," BIRMINGHAM. "RAILCAR, VIC., LONDON." "SHAFT," WEDNESBURY.



# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, JULY 5, 1913.

No. 1.

## PRINCIPAL CONTENTS

## THE HALF-YEAR'S TRAFFICS.

## THE RAILWAY TIMES.

Established in 1837.

PUBLISHED EVERY SATURDAY

Annual Subscription post free, 25 shillings.

All communications for the following issue should be received not later than 6 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

Money Orders, Cheques, etc., should be drawn in favour of THE RAILWAY TIMES, and should be crossed "National Bank."

Telegraphic Address: "Altimetrix, London." Telephone No. 2048 Gerrard.  
Office: 12, Norfolk Street, London, W.C.

# WOODITE

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Gauge Glass Rings and Steam Packings,  
Valves, Joint Rings, Pump Cups,  
Ram Rings, Packing Rings.

## WOODITE GAUGE GLASS RINGS

are extensively used on

HOME AND FOREIGN RAILWAYS,

and

LEADING STEAMSHIP LINES.

SEND FOR SAMPLE PAIR.

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**Woodite Company,** MITCHAM COMMON,  
SURREY.

aggregate the receipts to date of fifty-one companies have

is, of course, due to the fact that in the corresponding period the leading companies lost about £4,000,000 on account of the coal strike. Over and above the traffic thus regained, however, the activity of trade produced a further substantial increase over the 1911 figures, and the net result is that the gross traffic returns for the past six months constitute a new record for the first half of the year. The Midland Company nominally leads with a published increase of £1,032,000. It is necessary to remember, however, that about £300,000 of this increase represents receipts derived from the Tilbury system included in the figures for 1913, but not included in the corresponding figures; consequently the Midland receipts to date show a real increase of about £700,000 only. Making this special allowance, the North Eastern Company's aggregate gain of £916,000 represents the largest actual increase, although it is followed very closely by the North Western Company's gain of £782,000, and that of the Great Western of £719,000. Taking everything into consideration, the most striking figure, however, is the Great Central Company's increase of £504,000, which is equal to considerably over 10 per cent. gain on the corresponding figures. A feature of the half-year has been the all-round improvement in receipts which is, of course, particularly pronounced in the case of the goods and mineral lines. Among the passenger systems, the increases are satisfactory enough, the Great Eastern having added £74,000, the Brighton Company £60,800, and the South Western over £100,000. The various leading provincial railways have also done remarkably well, the Furness Company having over £52,500 gain to its credit, whilst the additions to their traffics made by the Hull and Barnsley, Lancashire and Yorkshire, and North Stafford Companies amount to £71,500, £217,800, and £44,000 respectively. Among the London railways two decreases appear—namely, those of the City and South London and the Great Northern and City lines, but in both cases these systems are subject to special influences. The District has again done the best amongst this group with a gain in its receipts for the half-year of nearly £13,600. The Central London follows very closely with an increase of £12,400, and the North London has been assisted by a recovery in goods traffic of 1.5

and suggestions for the prevention of personal injuries. Two years have elapsed since the attention of the company was turned to this important work, and during the past year an investigation has been made of every accident that occurred on this railroad, whether it was the case of a woman tripping on station steps, or the derailment of a passenger train. These accidents have been analysed to arrive at their fundamental causes. Formerly it was sufficient to know the cause of an accident; now exhaustive investigation develops all the contributing elements of the cause, in order to prevent the recurrence of similar contributing causes. This study has brought out those practices which cause every kind of accident that occurs on railroad property. Probably 70 per cent. of all accidents that happened in 1912 could, says Mr. S. C. Long, the general manager, have been prevented if employees had exercised special caution. It is in order to give every man the benefit of this painstaking investigation that the thirty-page publication has been compiled. In a personal appeal for the co-operation of every employee, the general manager says: "Safety in railroad operation is not a question of safeguards, but of intelligent caution constantly exercised. The ultimate aim of the safety work is to develop in each employee a sense of personal responsibility, not alone in taking measures for his own safety, but for that of his fellow employee as well."

The rejection by a Select Committee of the House of Commons of the Northern Junction Railway Bill brings to an end a project interesting and important in itself and interesting also because of historical association. Away back to the earlier days of railways stretch the records of schemes—all unsuccessful—for providing London with an outer circle railway. The very name of the route in the central districts of London now worked by the Metropolitan and Metropolitan District Companies, the Inner Circle, shows that at the time that line was built an outer circle was in contemplation. The idea for many years was to provide a circular route running through the outer suburbs all round the metropolis, which besides providing local cross communication for passengers would enable goods and mineral traffic to be easily exchanged between the main trunk lines without entering London. The interests concerned were, of course, very numerous, and there was a corresponding opportunity for the multiplication of opposition. In more recent years promoters of such schemes became less ambitious. A few years ago, for example, a Bill was promoted for constructing a junction railway from the extreme western suburbs round the North of London and on to the docks in the extreme East, thus leaving South London out of the scheme altogether. That also failed. This year came an even milder proposal, the Northern Junction Railway Bill, which was for a line which would cover only a quadrant of a great circle round London. It was to run from Brentford on the London and South Western Railway to Wood Green on the Great Northern line, and was to connect with all the trunk railways which it would encounter on the way. The scheme did not touch so many conflicting interests, but a new and fiercer opposition was encountered. Other opposition, latterly at least, was comparatively limited. The proposed line would have run through the district of thirteen local authorities, and affected only two parishes. Out of 50 landowners from whom it was proposed to acquire property, only two were against the project. The line would come in contact with seven main trunk railways, but only two of the seven railway companies concerned opposed. The Bill had also the active approval of the War Office which saw in it a valuable means of transportation for troops and stores. It can hardly be doubted that it was the opposition from





The following table gives the increase or decrease for the twenty-sixth week of this year, the increase for the corresponding week in 1912, and the increase for the same week in 1913 as compared with 1911, together with the total increase for the half-year over the first half of 1912. While some of the companies record decreases for the last week of the half-year, it should be noted that the comparison is with large increases a year ago.

Index Numbers of Railway Debentures.

Our Index Numbers for the prices of best debentures of English Railways, based on the average yield obtained from these stocks, are repeated below and brought up to date. The rate of interest is assumed to be  $3\frac{1}{2}$  per cent.

Year.	Index.	Month.	Index Price
1871	70	End of August	1612
1881	62 $\frac{1}{2}$	.. September	.. 74
1891	109	.. October	.. 81 $\frac{1}{2}$
1899	128	.. November	.. 84
1901	110	.. December	.. 84 $\frac{1}{2}$
1900	97 $\frac{1}{2}$	.. January	.. 81
1908	95 $\frac{1}{2}$	.. February	.. 81
1909	94	.. March	1913 81 $\frac{1}{2}$
1910	90	.. April	.. 81 $\frac{1}{2}$
1911	88	.. May	.. 81 $\frac{1}{2}$
1912	89 $\frac{1}{2}$	.. June	.. 82 $\frac{1}{2}$

# AGGREGATE TRAFFIC RECEIPTS FOR THE FIRST HALF-YEAR, 1913.



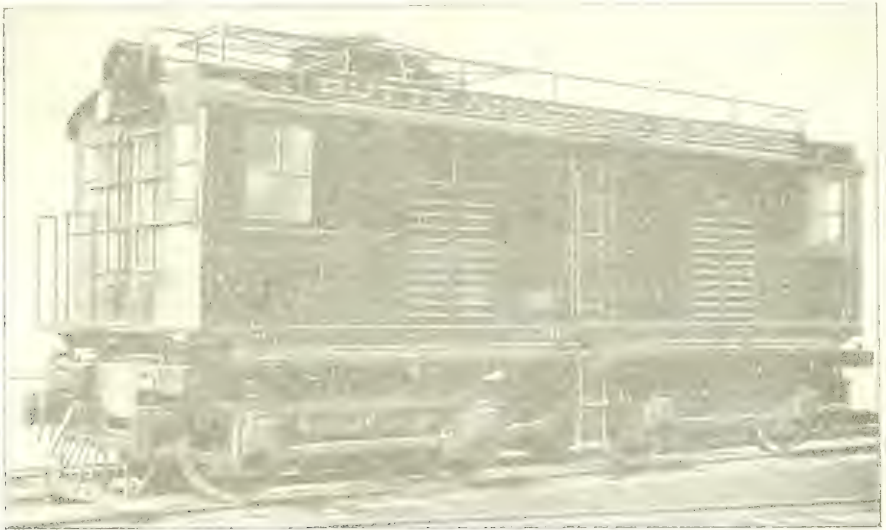
### A HIGH-PRESSURE DIRECT-CURRENT LOCOMOTIVE.

The high-pressure direct-current system of electric traction is being gradually developed in various foreign countries, and as it is beginning to be tried in England considerable interest attaches to the designs employed abroad. Some electric locomotives which are being put into service on the Butte, Anaconda, and Pacific Railway in the United States are the first of this type, and are working at as high a potential as 2,400 volts. The railway in question has hitherto been worked by steam locomotives, and the conversion of part of it has been a large task.

The traffic demands on this particular railway are unusually severe, and consist principally of hauling long trains of copper ore over heavy mountain gradients. The 2,400-volt direct-current system was considered best suited for exacting service of this character; for its adoption presented an opportunity to realise unusual economies both in initial expenditure and the cost of operation. The section of the road that has been equipped lies between Butte and Anaconda, Montana. It comprises 30 miles of main line single track, and numerous sidings, etc., aggregating a total of about 60 miles on a single track basis. The haulage of copper ore, together

The locomotives are the articulated double track type with all weight on the drivers. The cab, containing an engineer's compartment in each end and a central compartment for the control apparatus, is carried by the two truck frames on centre pins. It is of the box type, extending the entire length of the locomotive, and is provided with end and side doors. On each axle is mounted a motor of the twin geared type. The friction draft gear mounted on the outer end frame of each truck transmits the hauling and buffing stresses directly through the truck frame, diverting these strains from the centre pins and under frame. The trucks are built of heavy steel castings. The side frames are of a truss pattern with heavy top and bottom members and pedestal tie bars. They are connected by end frames and a cast steel centre transom. The entire weight is carried on semi-elliptic springs suitably equalised.

The engineer's compartment, at either end of the cab, contains the operator's seat, controller, air brake valves, bell and whistle ropes, ammeter, air gauges, sanders and other control apparatus that should be within immediate reach of the engineer. In the central section is grouped the control apparatus. The contactors, reversers and rheostats are mounted in two banks running lengthwise of the compartment. All parts and circuits carrying current at 2,400 volts are



Direct Current, 2,400-Volt Electric Locomotive.

The locomotive is of the articulated double track type, with all weight on the drivers. The cab, containing an engineer's compartment in each end and a central compartment for the control apparatus, is carried by the two truck frames on centre pins. It is of the box type, extending the entire length of the locomotive, and is provided with end and side doors. On each axle is mounted a motor of the twin geared type. The friction draft gear mounted on the outer end frame of each truck transmits the hauling and buffing stresses directly through the truck frame, diverting these strains from the centre pins and under frame. The trucks are built of heavy steel castings. The side frames are of a truss pattern with heavy top and bottom members and pedestal tie bars. They are connected by end frames and a cast steel centre transom. The entire weight is carried on semi-elliptic springs suitably equalised.

The engineer's compartment, at either end of the cab, contains the operator's seat, controller, air brake valves, bell and whistle ropes, ammeter, air gauges, sanders and other control apparatus and overhead line material, was designed and built

by the American Electric Locomotive Co., and is of the box type, extending the entire length of the locomotive, and is provided with end and side doors.

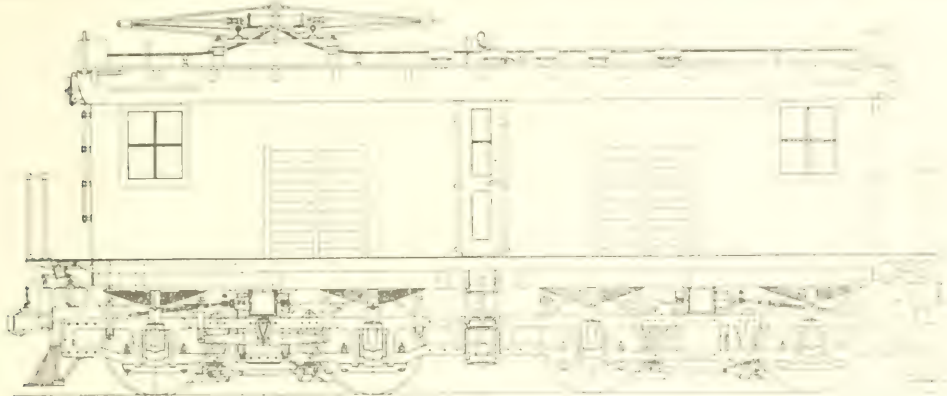
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The engineer's compartment, at either end of the cab, contains the operator's seat, controller, air brake valves, bell and whistle ropes, ammeter, air gauges, sanders and other control apparatus and overhead line material, was designed and built

wound for 1,200 volts and 120 amperes. A large pulley is mounted on each end of the motor shaft which meshes into a corresponding gear mounted on the wheel hub. The gear reduction is 4.84 on the freight locomotives and 3.2 on the passenger locomotives. The GE 226A motor is designed especially for locomotive service, is enclosed and provided with forced ventilation. The method of ventilation circulates effectively a large volume of cool air throughout the motor and keeps all parts at a uniform temperature, eliminating the possibility of "hot spots." The continuous capacity of each motor is 190 amperes at 1,200 volts under

the conditions specified. The motor is controlled by a rheostat played in the standard type M control. The principal variable is the main switch, which is provided with a powerful blow-out so that heavy currents can be opened.

The main switch is provided with a powerful blow-out so that heavy currents can be opened. The main switch is provided with a powerful blow-out so that heavy currents can be opened. The main switch is provided with a powerful blow-out so that heavy currents can be opened.



Side Elevation Direct Current 2,400-Volt Electric Locomotive.

forced ventilation, and 225 amperes at 1,200 volts for the one hour rating. For the double unit 100-ton locomotive this is equivalent to a continuously sustained output of 2,100 horsepower.

The control equipment on the locomotives is the well-known Sprague-General Electric type M multiple unit control, and is designed to operate the four motors in series and series-parallel. The pairs of motors with their respective resistances are all

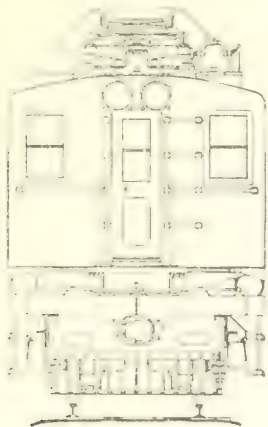
through the fuse, to insure proper rupture of the arc. An ammeter is located at each engineer's position and indicates the current in the circuit of one pair of motors. The main motor rheostats are formed of cast iron grids assembled in a frame and insulated by mica. Twenty resistance units are provided for each passenger locomotive, and 20 resistance units for each freight unit.

Current is collected by overhead trolleys of the pantograph type. They are pneumatically operated and connected into service from either engineer's compartment by a hand-operated valve. Each passenger locomotive is equipped with two collectors, and each freight unit with one collector. A 2,400-volt insulated bus line connected direct to the trolley trolley runs along the center on the roof of the cab. The locomotives are equipped with arc headlights. The interior illumination of the cab is provided by ten incandescent lamps arranged in two circuits.

The air brakes are the combined straight and automatic type. The air compressor, the CP-26 type, is two-stage motor driven, and has a piston displacement of 100 cu. ft. of air per minute

inch. Pneumatic sanders are provided. All wiring is drawn through conduits and carefully protected.

Crews, Roadmen, and the Army Reserve.



End Elevation.

connected in series on the first point of the controller. The resistance is varied through nine points on the controller and finally short-circuited on the tenth or running point. The pairs of motors are then operated similarly in series-parallel and all resistance is cut out on the nineteenth point, which is the full speed running point. The smooth transition between control points permits acceleration close to the slipping point of the wheels. A switch is provided having manually-operated handles for cutting out either pair of motors, so that the locomotive can then be operated with one pair of motors in the usual way.

Visit to Hoboken Street Car

# MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

July 10	Egyptian Delta Light Railways Association	Windsor Hotel, London, E.C. 4.
July 13	Egyptian Delta Light Railways Association	Windsor Hotel, London, E.C. 4.
July 15	North and South Western Junction Railway	Hotel Cecil, 111, Strand, London, W.C. 2.
July 16	Mandla Railway (Deccan) Ltd.	Hotel Cecil, 111, Strand, London, W.C. 2.

## GREAT INDIAN PENINSULAR RAILWAY.

The Chairman, Mr. R. H. Wadsworth, presided at the meeting. The Chairman, Mr. R. H. Wadsworth, presided at the meeting. The Chairman, Mr. R. H. Wadsworth, presided at the meeting. The Chairman, Mr. R. H. Wadsworth, presided at the meeting.

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The proceedings then terminated.

## ORDINARY GENERAL MEETING.

The 12th half-yearly ordinary general meeting of the stock company presiding.

The Chairman, Mr. R. H. Wadsworth, presided at the meeting. The Chairman, Mr. R. H. Wadsworth, presided at the meeting. The Chairman, Mr. R. H. Wadsworth, presided at the meeting.

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be distributed amongst the stockholders. This will admit of a surplus dividend of 10s. per cent., and leave a small balance of about £200 to be carried forward. The results are not quite so good as we had hoped for. The months of July, August and September are generally regarded as the worst months for traffic, but last year the traffic in those months was quite brisk owing to the large quantity of wheat, grain and seeds which could not be cleared in the previous months having to be carried. On the other hand, the monsoon rains of 1912 were very late, and consequently the cotton and other winter crops were later than usual and were not brought to market until December. Again, there were practically no winter rains in the Bombay Presidency and in many other parts of India. This caused a scarcity in the eastern districts of Bombay, and seriously affected the cotton and seed crops. Cotton, as you know, is one of our principal commodities, and any shortage of that crop seriously affects our earnings. In comparison with last year our earnings from raw cotton decreased by Rs.12,15,147 and from cotton seed by Rs.12,03,180. The decreases under these two items alone reduced our net earnings in the nine months ended March 31 by about Rs. 20 lakhs; if the season had been as good as the preceding one our surplus dividend would have been considerably larger. The deficiency has been, however, partly made good by considerable increases in manganese ore, wheat and other food grains, and in imported sugar from Mauritius.

Including journeys by season ticket holders, in the December half-year we carried 17,030,610 passengers, showing an increase of 1,002,600; but as special trains are included in the receipts of coaching traffic there was no set-off against the large increase from special trains to and from Delhi in connection with the Coronation Durbar in 1911. The actual coaching receipts in the December half-year were Rs.4,47,481, as against Rs.4,47,481 in the corresponding quarter of 1911. The increase in numbers of passengers carried was 1,002,600, showing an increase in numbers of 877,970; and as the comparative figures for special trains, etc., were slightly better the total coaching receipts in the quarter show an increase of Rs.4,70,481. The steady increase in numbers travelling continues; about 60 per cent. travel third class, and the receipts from that class average about 86 per cent. of the earnings. In the half-year ended December 31 last the total goods receipts from all sources showed an increase of Rs.42,31,016, while in the quarter ended March 31 last there was a set-back of Rs.2,07,857; still, a net increase on the nine months of 1911. Our fortunes depend very much on the character of the monsoon rains of the preceding year and on the state of the freight market. In consequence of the late and irregular monsoon of 1912 a short cotton crop, a bad season for rice and short crops in oil seeds—principally cotton seed—has resulted. On the other hand, freight rates have been favourable, and large quantities of goods have been imported.

Our main paying staple is cotton, and we carry that commodity from three principal centres—from Khandesh, from the Central Provinces and the Berars, and from the Southern Mahratta country. From all centres the produce was late in coming to market, the Khandesh crop was a partial failure, and only a small quantity could be carried, the crop from the Central Provinces was a fair one, but it was very late and gave us a fair traffic, while that from the south was very late and little or none was handled before March 31. We shall, however, carry that later on. There is fortunately an almost inexhaustible supply of manganese ore of excellent quality in the Central Provinces, and we have made arrangements by which it is hoped that the dealers in that commodity will be able to obtain it in large quantities. The G.I.P. has been carrying the manganese ore from the Central Provinces to the Madras ports, and the Berar manganese ore to the Bombay ports. The G.I.P. has been carrying the manganese ore from the Central Provinces to the Madras ports, and the Berar manganese ore to the Bombay ports.

## THE PERMANENT WAY AND RAILWAY STOCK.

Under the heading "Maintenance" it will be noticed that the increase of expenditure in the December half-year amounted to Rs.14,43,507. Of the merely half (Rs. 6,85,000) was due to relaying 61 miles of main line with 100-lb. rails and released 82-lb. rails; strengthening weak girders and renewing old bridges accounted for Rs.1,71,000, and Rs.5,00,000 were spent on repairs of stations and remodelling station yards, etc. In the March quarter 15½ miles were relaid with heavier rails at a cost of Rs. 5,00,000. Rs. 1,00,000 were spent on renewing large bridges on the Nagpur branch. The engineers have done a great deal of work when the traffic is slack, and the amount of work that they were able to accomplish in the nine months is most commendable. In addition to the



to pay for all alterations of old work. In the locomotive department the increased traffic entailed 1,500,000 extra engine miles, the coal bill was increased by Rs.6,35,767, and thirteen passenger engines were renewed at a cost of Rs.8,14,810. In the carriage and wagon department the necessary renewals and repairs were carried out as far as our partially built new shops would permit. Further, 40 coaching vehicles and 308 goods wagons were added to the general stock of the line on capital account. In the March quarter the increased expenditure

drawn from stores in March material for renewing 372 wagons; this will reduce very materially the expenditure in the present half-year. In special and miscellaneous expenses there was an increase of Rs.5,45,593 in the December half-year, due chiefly to the balance of hire and demurrage of interchanged stock

ment of Rs.2,16,227 as gratuities to the staff on retirement. On the other hand, the March quarter shows that the expenses in this department were less by Rs.3,70,428 than in 1912; this is due to comparison being made with a half-year in which we paid to the minor staff bonuses amounting to Rs.4,50,010, being the *largesse* granted by the King Emperor at the Delhi Coronation Durbār.

#### ROLLING STOCK DEFICIENCY.

Chiefly from want of funds, work on the Itarsi-Nagpur chord board appealed to the Secretary of State for India for special consideration of this important line. It is true that the line has to cross over a plateau some 1,200 to 1,500 feet higher than the country at either end, and that somewhat heavy works are entailed both on the ascent and descent; but with ordinary diligence the whole of the work could have been finished within five years had sufficient funds been provided. After six years of work the northern approach and ascent to the plateau have now been finished, and 66 miles of line were opened to traffic on May 1 last; but as yet we have not been permitted by Government to undertake the heavy work on the south side of the plateau, and many more years seem likely to be required before the company can reap the full advantage which this line should give us. Owing to increased traffic it is difficult to work the trains over the Thull Ghaut as fast as is necessary. The reversing station on this section is in such a cramped position that no extension is possible; its elimination is therefore necessary, and Government sanction has just been received for a short length of line on the 1 in 37 grade which will render the reversing station unnecessary and will add greatly to the

of traffic last year found our railway very deficient in rolling stock and in traffic facilities for moving the trains, and much traffic was lost in consequence. Provision was made as soon as possible for increasing the traffic facilities wherever they were most needed, and much work has been done in this direction; but the extra money granted for rolling stock was not given soon enough to enable the board to make the full use of it. The manufacturers are also requiring much longer time in which to complete their contracts. Paragraph 29 of the report shows what has been accomplished in regard to additional rolling stock during the nine months under review. Since April 1 last contracts have been let for 10 engines for suburban traffic and 216 goods wagons; and in this period we have shipped to India to heavy ghaut engines and 133 coaching and goods stock. The stock sent out is not as much as we had hoped to despatch, but we are at the mercy of the manufacturers. The present strikes in the Midlands, where we have many contracts, make our position somewhat worse. The traffic pressure, however, this year has not been quite so great as it was in 1912; still, it has been, and still is, very great, and more stock with additional engine power is urgently required. We have been comparatively free from serious accidents during the period

one happened in the early morning of April 30 last near the Borgan station on the Nagpur branch, due entirely to faulty signalling. A passenger train unfortunately were badly smashed. Thirty-two natives were killed, and a great many, including an English interlocking inspector and his wife, were seriously injured. Some of the staff are now

under trial by the district magistrate. I must also allude to a

complaint against us. Fortunately our men soon saw their mistake and quickly returned to duty, but the strike caused much inconvenience to the public, and our goods traffic was disorganised for a week.

Perhaps you will allow me to read a short paragraph out

Railway will get what they think they ought to have,

convenience of the public. We are prepared to disorganise the trade of the country; we are prepared to throw

treated very considerably and even liberally on the G.L.P.; we admit that the agent has always met us when we wished to put before him any representation; but we cannot help it, we are mean to follow them out as loyal trade unionists. All that we

the other lines in the country, so that our demands on behalf of Madras railway men may be granted." As a matter of fact the strike began on June 1 at 12 o'clock, and it was all over the next day. We have had no difficulty with our men in any way, but, unfortunately, some few of them have had to be dismissed. It is difficult to make any forecast of the prospects before us. Owing to the absence of the usual rains last Christmas it was feared that the spring crops would be seriously affected, but the position was improved by rain falling somewhat later than usual. The seed crops in the United Provinces ought to be fairly good; the wheat crop in the Central Provinces is reported to be very good, and the latest returns show that the railway is carrying large quantities of general merchandise. The priests have declared this year as a propitious one for Hindoo marriages, and consequently people travel about in larger numbers, and there can be no doubt that as the result of several good years the condition of the people has greatly improved. Beyond that it is impossible to prophesy; the rest depends on the monsoon rains of 1913. There have lately been very unusual outbursts of heavy rain in many parts of India; the last reports, however, state that the regular monsoon broke a few days ago in Bombay, and although it is not strong as yet the indications are favourable. I will conclude by moving: "That the report of the directors, together with the accounts now submitted, be received and adopted."

Mr. J. E. DUFFY (deputy-chairman) seconded the resolution.

The CHAIRMAN: Sympathy. A strike was going on on the Madras and Southern Mahratta Railway, and the Amalgamated Society asked that they should be assisted. About 18,000 or 20,000 of the G.L.P. men were members of the Society, but, with the exception of a few, they refused to have anything to

their men for long continuous service, and those who struck would lose such gratuities. Those who went back to work would have to start afresh.

The resolution was carried unanimously, and the CHAIRMAN then moved: "That a dividend of 10s. per cent. upon the 3 per cent. guaranteed stock of the company be and is hereby declared

stock now registered in the books of the company, in addition to the guaranteed interest of 2½ per cent. for the current half-year."

Mr. H. C. E. WIDEN, C.L.E., seconded the resolution, which was unanimously agreed to.

On the motion of Mr. A. H. CAMPBELL, seconded by Mr.

occurred after the nine months; but during the nine months the staff have had a very large traffic to deal with, and with

fully deserve the thanks which you usually accord. I am sorry to see that Mr. Walker, one of our most experienced engineers, does not survive to May 20 last, apparently from the effects of a severe cold, which, after a long and arduous career, and which he had been spared, would have risen to a much higher position. I have to propose that the best thanks of the meeting are offered to his family, given to Mr. H. A. L. Hepper, who has acted as his deputy, and to the friends and members of the staff, and to the staff generally, and also to the House staff, for their valuable services during the past half year."

Mr. Chairman seconded the resolution which was carried unanimously, and on the motion of Mr. Wilson, Kinnaird, seconded by Mr. H. A. L. Hepper, a vote of thanks was passed to the staff and to the House staff.

**R. Waygood and Company.** Mr. H. A. L. Walker, president of the company, reported that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea.

**Rio Claro São Paulo Railway.** A report was received from Mr. J. M. de Almeida, president of the company, that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea.

**Pena Railway.** A report was received from Mr. K. M. de Almeida, president of the company, that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea.

**Explan Delta Light Railways.** A report was received from Mr. W. L. de Almeida, president of the company, that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea.

concessions retained by the company, and altering the articles of association of the company, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea, and that the company had been successful in obtaining a concession from the Government of the Khedive for the construction of a railway from the Mediterranean Sea to the Red Sea.

it an absolute condition that they should dispose of the Helouan portion of their undertaking, and be proceeded to deal with their other demands. When he (the speaker) returned to Egypt last year he endeavoured to find a suitable purchaser. They obtained an offer, but it involved the condition that it rested upon that purchaser obtaining further concessions from the Government. These concessions could not be granted by the Government, which, however, in refusing to sanction the sale proposed, made them the offer of purchase which the directors now asked the shareholders to accept. The sale of the Helouan Railway, if carried through, would relieve them of a considerable amount of expenditure, much of which would have been incurred in the construction of the railway in recommending the acceptance of the offer. The Chairman then dealt with the modifications of the concession. He pointed out that the Government had the option of purchase of the railway in the year 1927 on the basis of the average net receipts of the railway during the preceding five years, and that the concession was an undeterminable one, that was with no date of reversion, but with the option to the Government of purchase at any time after the year 1928, at actual capital cost. The proposed change would further release the sinking fund accumulations, amounting to approximately £175,000. That sum would be available for extensions and additions to their light railway system. The resolutions were unanimously agreed to.

### DIVIDEND ANNOUNCEMENTS.

**Grand Trunk Railway Company of Canada.** The directors of the Grand Trunk Railway Company of Canada have declared a dividend of 10 per cent. on the capital stock, free of income-tax.

**Explan Delta Light Railways.** The directors of the Explan Delta Light Railways have declared a dividend of 10 per cent. on the capital stock, free of income-tax.

### GRAND TRUNK RAILWAY COMPANY OF CANADA.

The Grand Trunk Railway Company of Canada has published its financial statement for the month of May 1915.

	1914.	1915.
Income	£1,000,000	£1,000,000
Expenses	£800,000	£800,000
Profit	£200,000	£200,000
Dividend	£200,000	£200,000
Reserve	£800,000	£800,000
Capital	£1,000,000	£1,000,000
Debt	£800,000	£800,000
Assets	£1,000,000	£1,000,000
Liabilities	£800,000	£800,000
Equity	£200,000	£200,000
Net Income	£200,000	£200,000
Net Expenses	£800,000	£800,000
Net Profit	£200,000	£200,000
Net Dividend	£200,000	£200,000
Net Reserve	£800,000	£800,000
Net Capital	£1,000,000	£1,000,000
Net Debt	£800,000	£800,000
Net Assets	£1,000,000	£1,000,000
Net Liabilities	£800,000	£800,000
Net Equity	£200,000	£200,000
Net Net Income	£200,000	£200,000
Net Net Expenses	£800,000	£800,000
Net Net Profit	£200,000	£200,000
Net Net Dividend	£200,000	£200,000
Net Net Reserve	£800,000	£800,000
Net Net Capital	£1,000,000	£1,000,000
Net Net Debt	£800,000	£800,000
Net Net Assets	£1,000,000	£1,000,000
Net Net Liabilities	£800,000	£800,000
Net Net Equity	£200,000	£200,000
Net Net Net Income	£200,000	£200,000
Net Net Net Expenses	£800,000	£800,000
Net Net Net Profit	£200,000	£200,000
Net Net Net Dividend	£200,000	£200,000
Net Net Net Reserve	£800,000	£800,000
Net Net Net Capital	£1,000,000	£1,000,000
Net Net Net Debt	£800,000	£800,000
Net Net Net Assets	£1,000,000	£1,000,000
Net Net Net Liabilities	£800,000	£800,000
Net Net Net Equity	£200,000	£200,000

The Canada Car and Foundry Company, Limited, has completed a large plant, which will give employment to one thousand men.

**Platform Ticket System.** The Great Western Railway is gradually extending the very profitable system of issuing platform tickets at its stations. The latest to become "closed" stations are Banbury, Teignmouth, Newton Abbot, and Dawlish.





later, it was suggested that the traffic should be retained by the railway companies for public inspection after July 1 at the various places at which they were kept.

Mr. Buxton: Railway companies are required by law to show in the rate books at their stations all the rates in force for the time being. The new rates will no doubt as a rule be entered in the existing rate-books, and it should be possible to compare them with the present rates, but I have no power to require that this shall be so.

Mr. Crook: I have asked the President of the Board of Trade, whether, in regard to the notices recently given by the principal railway companies of their intention to increase their rates on goods traffic as from July 1, subject to the statutory maxima, he was aware that in many cases it was difficult for agriculturists and traders to ascertain the maxima chargeable by railway companies, and that the form of the notices left such persons in doubt as to the extent to which their traffic might be affected by the carrying out of the railway companies' intentions; and whether he would take steps with the object of ascertaining and causing to be published precise lists of the rates which the railway companies might be expected to charge, and the maxima to which they proposed to make in them.

Mr. Buxton: I am not aware of any such difficulty. The existing rate is not sufficiently below the maximum to allow of the full increase of which general notice has been given, but I understand that it is not now proposed to make any increase in the class rates between places in England, and it is only in the case of class rates that this difficulty is likely to arise. The new rates should appear in the rate-books immediately.

#### AVERAGE DEMURRAGE PROPOSAL IN CANADA.

the hearing of arguments by the Canadian Pacific and Grand Trunk Railway Companies against the proposal of the Mann demurrage.

Mr. E. W. Beatty, general counsel for the C.P.R., gave some figures to show that road had reasonably increased its terminal facilities within the last few years. Mr. Crombie, superintendent of the G.T.R., stated that any delay was on lines. The road, he said, had been suffering for some time

by the average demurrage system the charge on all cars posed to be computed on the basis of the average time of

made for the detention of the cars, and no payment will be

another point.

## GENERAL NEWS.

### FURNESS RAILWAY HISTORY.

An interesting 32-page review of the Furness Railway is given in the July number of the *Railway Magazine*, the author being Mr. W. T. Perkins, who acknowledges the generous co-operation of Mr. Alfred Aslett, the secretary and general manager, supplemented by that of Mr. Pettigrew, the locomotive superintendent; of Mr. A. A. Haynes, superintendent of the line; Commander C. Bissett, R.N., harbour master at Barrow-in-Furness, and other chief officers. The illustrations are very numerous, and as regards interest those depicting the superb scenery to be found in the country served by this railway could hardly be surpassed elsewhere. The story of the Furness Railway, our contemporary remarks, could be told at no season more appropriate than the present, when it becomes the centre of such genuine admiration by people travelling not only from every part of the United Kingdom, but from more distant places in the Empire and from foreign countries, where there ever exists an undying love for the beauty spots of old England. The Furness Company has taken a prominent place among British transport systems—first, by reason of the fact that it has aided greater ones than itself in making known to the world the wondrous lake scenery of Cumberland and Westmorland; and, second, because it has, by its own enterprise and resource, helped to create a huge industrial centre, and to develop one of the richest hematite iron ore fields in existence.

The locomotive, carriage, and wagon works occupy about 30 acres. Of the new six-wheel coupled goods engines, designed by Mr. W. F. Pettigrew, it is recorded that they are hauling very heavy loads up gradients nearly four miles long, the inclination of which is 1 in 70, and up another bank of 1 in 63, five and a-half miles long, with eight and ten chain curves. Another photograph shows Mr. Pettigrew's new bogie passenger engine. The Furness Railway is in the forefront for up-to-date wagons for the goods and mineral traffic, for which a large number of bogie vehicles are operated. These wagons can round sharper curves, are much easier for the permanent way, and the ratio of carrying capacity to dead weight is very much greater. Thus a material decrease in the cost of hauling goods is effected. Smaller siding accommodation is required, as one wagon carrying 40 tons will occupy less room than two wagons containing 20 tons each. As the bogie will run round very sharp curves, turns

says Mr. Perkins, "that the average load of goods per wagon in this country is only 2½ tons, and that consequently there is no need for large wagons to carry 30 tons." But we may often see in Great Britain whole trains of coal, coke, and iron ore in full wagon loads. It is therefore evident that the larger wagons could, in such cases, be used with greater advantage and economy. The objection that the bogie

distance from those existing, so that one bogie of the wagon

The company's 20-ton "absolute discharge" wagons are designed to fulfil present day requirements, which necessitate a rapid, economical, and, having regard to the stringent

practice that the time saved by the Furness wagon is about 20 minutes by the two door men, and by the labour of four

Barrow Docks, which are the property of the railway Irish Channel services to Belfast and for manufacturing yard of Vickers, Ltd., and the airship and rigid dirigible enterprises of that company. 127½ acres of land are reserved by the Furness Railway Company to be let as sites for new works.

## RAILWAY BENEVOLENT INSTITUTION.

The report of the Board of Management for the year ended

The total income, including that of the Derby Orphanage, with the previous year. The total expenditure, including necessary building alterations at the Orphanage, was £66,683, expenditure was somewhat less than in the previous year, but there was, as usual, pressure on the Widows' Fund. Descriptions to the Casualty Fund were 2308 less than in 1912. The percentage of claims on this fund is steadily growing year by year, and they average 21 for each working day. At the present time there are in receipt of permanent annuities; 1,170 widows and members, and there are 1,215 applicants

92 of the latter can be elected to permanent annuities at the ensuing annual meeting, leaving 1,123 to be appointed by the board to contingent annuities. During the past year 453 children have been maintained and educated at the Orphanage at Derby and other schools, and 73 children will be admitted this year. The Derby Orphanage is fulfilling an important part of the beneficent work of the Institution. The knowledge that applications for permanent relief are steadily increasing, whilst on the other hand the income of the Institution is not being maintained, as is shown by the accounts, is a subject of anxiety, and the board again therefore earnestly appeal to all the members to use their influence in order that the funds may be augmented. It would be an inestimable advantage if some beneficent donor or donors, emulating the example of the late Rev. Francis Jacox, would provide an endowment to be administered by the Institution for the support of the widows of railwaymen.

The CHAIRMAN, in moving the adoption of the report, first reviewed the main items of the accounts, and then said that it would be noticed that there was a decrease in the amount received for the Casualty Fund. It had been suggested that that was in some part due to the operation of the Insurance Act. He did not know whether that was so or not, but it was rather an unsatisfactory feature that such a very small contribution as is, per annum should have decreased as much as it had done. Sir Charles Bine Renshaw, president of the Institution, went to Derby to the annual meeting of the Orphanage, which was held on Wednesday, June 18, this year, and presented the prizes to the children. They owed a debt of gratitude to Sir Charles Renshaw for presiding at the anniversary dinner.

It was noted that many members limited their interest in the Institution to the payment of the small subscription necessary to qualify them for assistance, should they fall upon evil times. In view of the report not being very favourable, it was hoped that the members would increase their interest, and do what they could to assist in raising funds, either by collecting, or giving their assistance in promoting concerts, dramatic entertainments, and so on, and in enlisting the sympathies of their wives and friends for this purpose. Mr. W. Johnson Galloway, director of the Great Eastern Railway Company, and an accomplished musician, had been good enough to suggest that an orchestral and choral concert, representing railway musical talent in London and the provinces, should be held in the Albert Hall in aid of the funds of this Institution some time early next year, probably in February, and he had very kindly offered his services as honorary conductor on that occasion. The Chairman had no doubt that that offer would be very gladly accepted by the board, and would result in the Albert Hall being filled. The Institution, from the magnitude of its operations, could claim to be a local as well as a general charity. This fact should appeal strongly to those who interested themselves preferably in the relief of distress in their own neighbourhood, as well as to those whose benevolence extended to all good objects. A great deal could no doubt be done locally in obtaining contributions to assist in the very excellent objects of this Institution, and they hoped that they would be able

was very rapid, more rapid perhaps than any other charity in existence, certainly more so than any other institution connected with railway servants.

Jacox's gift to the Society. During his lifetime Mr. Jacox, with the good that these annuities did that he left the whole as possible, and the Institution had been able to provide 93 further annuities of £30 each for railway officers and servants, which had been of inestimable value to the recipients. Their claims were, unhappily, most burdensome from the widows' side of the account, and annuities for widows similar to those given by Mr. Jacox would be very acceptable. In fact help in that direction was very greatly needed. The board hoped that some benevolently disposed person would come forward and help to increase the number of annuities available for these poor widows, who were a great drain on the funds, and this was unfortunately increasing year by year.

Mr. T. TELLING seconded the motion, and it was carried unanimously.

On the motion of Mr. F. H. DEXT, seconded by Mr. J. BLACKNEY, the best thanks of the members were awarded to Sir Charles Bine Renshaw for his eloquent advocacy of the claims of the Institution at the annual dinner on May 8, and his name was added to the list of patrons.

Lord Wolverton was re-elected treasurer of the Institution, and the retiring members of the Board of Management were re-elected. Mr. C. L. Edwards, accountant, Great Northern, and Mr. M. F. Keogh, general manager, Midland Great Western Railway (Ireland), were also elected members of the board.

Resolutions were also passed by which 27 widows in the officers' department were admitted annuitants, 33 members in the officers' department were elected annuitants, 23 children in the officers' department were elected to school benefits, 17 widows in the servants' department were admitted annuitants, and 15 members of the servants' department were elected annuitants.

Mr. C. E. HUDDLESTONE, in moving a vote of thanks to the Chairman and Board of Management, said that when they thought of a gentleman presiding over the affairs of this Institution they had to consider its magnitude. They had to get into their funds £75,000 before they could carry out the duties that had been allotted to them. That was a position which they were proud of, and they were able to think that those who were receiving these benefits were entitled to them, and that they were, so far as was possible, secured to them. When they thought that their distinguished Chairman was general manager of the Great Central Railway Company, they remembered he had other duties to look after besides those of this Institution. There was one thing which he was sure that every person connected with the railway service was unanimous in, and that was in congratulating their Chairman on the great honour which the King bestowed upon him on his opening the new Birmingham Dock. That was an honour that all men looked to. Yet he found time to look after the distressed and so to speak, the necessitous cases of this Institution. The least they could say to their Chairman was "Thank you," but he, the speaker, wanted them to do more. They had friends in their own

any of the other cases, but in spite of all that they were asked to do more. He could only encourage them and thank

benefits of this Institution who wanted to do more.

Sam Fay for the great interest he had taken in the Institution, and to congratulate themselves that they were doing

whatsoever.

Mr. G. W. LOWMEYER seconded the resolution.







## RAILWAY STOCK AND SHARE LIST.

## HOME RAILWAY ORDINARY STOCKS

NAME	CLOSING PRICES.			NAME	CLOSING PRICES.		
	Yesterday.	Last Week.	A Year Ago.		Yesterday.	Last Week.	A Year Ago.
Barry, Ord. ....	170	173	172	177	130	130	
Do. Pref. Conv. Ord. ....	81	85	91	91	92	92	
Do. Def. Conv. Ord. ....	41	41	41	41	41	41	
Calcutta, Ord. ....	70	77	76	77	79	79	
Do. Pref. Conv. Ord. 3½% ..	50½	57½	57	57½	57½	57½	
Do. Def. Conv. Ord. ....	18½	17½	23	23	23	23	
Do. Def. Ord., No. 1 .....							
Cambridge, N.E. Capital, No. 1 ..	2½	2½	2½	2½	2½	2½	
Do. Capital, Ord. ....	2½	2½	2½	2½	2½	2½	
Cardiff, Pref. Ord., 1895 (4%) ..	77	77	77	77	77	77	
Central London, Ord. ....	80	82	80	82	80	80	
Do. Pref. 4½% .....	80	82	80	82	80	80	
Do. Def. ....	70	73	70	73	70	70	
City & South London, Cons. Ord.							
East London, N. & S. Cons. Ord.							
Farnham, Cons. Ord. ....	57	57	57	57	57	57	
Glasgow & S. Western, Pref. Ord.	57	57	57	57	57	57	
Great Central, Pref. Ord. (5%) ..	124	124	124	124	124	124	
Do. Def. Ord. ....	124	124	124	124	124	124	
Great Eastern, Cons. Ord. ....	57	57	57	57	57	57	
Great N. & S. East. R. Cons. Ord.	57	57	57	57	57	57	
Do. Def. Conv. Ord. ....	18½	18½	18½	18½	18½	18½	
Great Northern, Pref. Conv. Ord.	84	84	84	84	84	84	
Do. Def. Conv. Ord. ....	81	81	81	81	81	81	
Do. Capital .....	14	14	14	14	14	14	
Great N. & S. City Pref. Ord. 4½%	127	127	127	127	127	127	
Great Western, Cons. Ord. ....	111	111	111	111	111	111	
Hatfield, Ord. Cons. Capital ..	57	57	57	57	57	57	
Isle of Wight, Pref. Conv. Ord. ....	57	57	57	57	57	57	
Do. Def. Conv. Ord. ....	41	41	41	41	41	41	
Leam. and Yorks. Cons. Ord. ....	111	111	111	111	111	111	
London, Brighton & S. Coast, Ord.	111	111	111	111	111	111	
Do. Def. Conv. Ord. ....	81	81	81	81	81	81	
Do. Capital .....	8	8	8	8	8	8	
Do. Capital .....	8	8	8	8	8	8	
London & North Western, Cons.	154	154	154	154	154	154	
London & South Western, Cons.	111	111	111	111	111	111	
Do. 4½% Pref. Conv. Ord. ....	51	51	51	51	51	51	
Do. Def. ....	54	54	54	54	54	54	
Mersey, Cons. Ord. ....	4	4	4	4	4	4	
Metropolitan, Cons. Ord. ....	45½	45½	45½	45½	45½	45½	
Do. Surplus, London, Ord. ....	54½	54½	54½	54½	54½	54½	
Metropolitan District, Ord. ....	54½	54½	54½	54½	54½	54½	
Midland, Pref. Conv. Ord. (4½%)	52	52	52	52	52	52	
Do. Def. Conv. Ord. ....	74½	74½	74½	74½	74½	74½	
North British, Ord. Pref. (3½%)	53	53	53	53	53	53	
Do. Def. Ord. ....	47	47	47	47	47	47	
N. Cornwall, L. & H. R. Pref. Ord.	87	87	87	87	87	87	
Do. Def. Ord. ....	67	67	67	67	67	67	
North Eastern, "Consols." ..	123½	123½	123½	123½	123½	123½	
North London, Cons. Ord. ....	47	47	47	47	47	47	
North Staffordshire, Cons. Ord. ..	85	85	85	85	85	85	
Portsmouth & S.W. Joint, Ord. ....	47	47	47	47	47	47	
Port Tugboi Railway & Dock ...	114	114	114	114	114	114	
Romford and Swans Bay ...	11	11	11	11	11	11	
Seaford, Cons. Ord. ....	172	172	172	172	172	172	
Do. Def. Ord. 4½% .....	87	87	87	87	87	87	
Do. Def. Ord. ....	91	91	91	91	91	91	
South Eastern, Cons. Ord. ....	111	111	111	111	111	111	
South Eastern, Def. Ord. ....	83	83	83	83	83	83	
Do. Def. Ord. ....	111	111	111	111	111	111	
Stratford & Mid. Jan. Cons. Ord.	74	74	74	74	74	74	
Taff Vale, Ord. ....	75	75	75	75	75	75	
Vale of Glamorgan, Ord. ....	97	97	97	97	97	97	

### Debenture Stocks.

Barry	4	91	95
Benson and Mottelay A	4	87	92
Do. B	4	80	86
Camden	4	101	103
Camden A	4	85	93
Do. B	4	77	81
Do. C	4	72	74
Do. D	4	41	44
Cardiff	4	73	79
Central London	4	99	101
City and South London Perpetual	4	82	87
East London and Greenwich A	4	91	95
Do. B	4	87	92
Do. C and D	4	80	86
Do. E and F	4	73	79
Do. G	4	65	69
Do. H	4	58	62
Do. White-chapel Extension	4	51	53
Forest Hill	4	77	81
Great Northern	4	101	104
Great Northern A	4	121	125
Do. B	4	115	119
Do. C	4	9	9
Great Eastern	4	92	101
Great Northern (London)	4	87	100
Great Northern (Ireland)	4	8	8
Great Western	4	92	104
Do. A	4	100	104
Do. B	4	115	117
Do. C	4	120	123
Do. D	4	94	95
Do. E	4	95	100
Hammersmith	4	101	105
Hammersmith and City	4	81	87
Isle of Wight	4	84	87
Isle of Wight Extension	4	57	60
Isle of Wight B	4	43	45
Isle of Wight C	4	4	4
Isle of Wight D	4	100	102
Isle of Wight E	4	110	112
Isle of Wight F	4	103	105
Isle of Wight G	4	97	99
Isle of Wight H	4	90	92
Isle of Wight I	4	83	85
Isle of Wight J	4	76	78
Isle of Wight K	4	69	71
Isle of Wight L	4	62	64
Isle of Wight M	4	55	57
Isle of Wight N	4	48	50
Isle of Wight O	4	41	43
Isle of Wight P	4	34	36
Isle of Wight Q	4	27	29
Isle of Wight R	4	20	22
Isle of Wight S	4	13	15
Isle of Wight T	4	6	8
Isle of Wight U	4	0	0
Isle of Wight V	4	0	0
Isle of Wight W	4	0	0
Isle of Wight X	4	0	0
Isle of Wight Y	4	0	0
Isle of Wight Z	4	0	0
Isle of Wight AA	4	0	0
Isle of Wight AB	4	0	0
Isle of Wight AC	4	0	0
Isle of Wight AD	4	0	0
Isle of Wight AE	4	0	0
Isle of Wight AF	4	0	0
Isle of Wight AG	4	0	0
Isle of Wight AH	4	0	0
Isle of Wight AI	4	0	0
Isle of Wight AJ	4	0	0
Isle of Wight AK	4	0	0
Isle of Wight AL	4	0	0
Isle of Wight AM	4	0	0
Isle of Wight AN	4	0	0
Isle of Wight AO	4	0	0
Isle of Wight AP	4	0	0
Isle of Wight AQ	4	0	0
Isle of Wight AR	4	0	0
Isle of Wight AS	4	0	0
Isle of Wight AT	4	0	0
Isle of Wight AU	4	0	0
Isle of Wight AV	4	0	0
Isle of Wight AW	4	0	0
Isle of Wight AX	4	0	0
Isle of Wight AY	4	0	0
Isle of Wight AZ	4	0	0
Isle of Wight BA	4	0	0
Isle of Wight BB	4	0	0
Isle of Wight BC	4	0	0
Isle of Wight BD	4	0	0
Isle of Wight BE	4	0	0
Isle of Wight BF	4	0	0
Isle of Wight BG	4	0	0
Isle of Wight BH	4	0	0
Isle of Wight BI	4	0	0
Isle of Wight BJ	4	0	0
Isle of Wight BK	4	0	0
Isle of Wight BL	4	0	0
Isle of Wight BM	4	0	0
Isle of Wight BN	4	0	0
Isle of Wight			

### Debenture Stocks (continued)

North London	14	174	701
North Staffordshire	4	73	114
Portsmouth & S.W. District	4	94	75
Port Talbot Railway and Docks	4	95	97
Richfield and Exeter Railway	4	93	97
St. James's Park	4	92	91
South Eastern Railway	4	90	84
Do. do.	4	97	94
Do. do.	4	122	124
Do. do.	39	84	86
East Valley	5	72	74
London and North Western	4	95	97
Whitby and Pick	4	95	98

### Preference Stocks—

(continued)

[illegible]

### Preference Stocks

DIVISION OF CONFINEMENT OF 1914, PAGES 13 OF 14

[illegible]

1912

1913



L—London & North-Western, 1912.

M—Midland, 1912.

THE PRICES OF SOME HOME RAILWAY STOCKS February 2, 1912—July 1, 1913.



[illegible]

## OFFICIAL TRAFFIC RETURNS.

<b>Barry.</b>			<b>Great Northern (Ireland).</b>			<b>Metropolitan.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>Caledonian.</b>			<b>Great North of Scotland.</b>			<b>Metropolitan District.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>Cambrian.</b>			<b>Great Southern and Western.</b>			<b>Midland.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>Central London.</b>			<b>Great Western.</b>			<b>Midland Great Western of Ireland.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>City and South London.</b>			<b>Highland.</b>			<b>North British.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>Dublin and South Eastern.</b>			<b>Hull and Barnsley.</b>			<b>North Eastern.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>Furness.</b>			<b>Lancashire and Yorkshire.</b>			<b>North London.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>Glasgow and South Western.</b>			<b>London, Brighton and South Coast.</b>			<b>North Staffordshire.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>Great Central.</b>			<b>London Electric.</b>			<b>Rhymney.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>Great Eastern.</b>			<b>London and North Western.</b>			<b>South Eastern and Chatham.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400
<b>Great Northern.</b>			<b>London and South Western.</b>			<b>South Eastern and Chatham.</b>		
Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.	Week ending June 28	1913.	1912.
Total for week	£12,400	£12,400	Total for week	£12,400	£12,400	Total for week	£12,400	£12,400
Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400	Aggregate for 26 weeks	£12,400	£12,400
Miles open	100	100	Miles open	100	100	Miles open	100	100
Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400	Inc. this week	£12,400	£12,400

NOTES AND EXPLANATIONS.—The figures in this table are taken from the returns of the railway companies for the week ending June 28, 1913, and are subject to the usual variations of the railway companies' returns. The figures are given in pounds sterling, and are rounded off to the nearest pound. The figures are given in pounds sterling, and are rounded off to the nearest pound. The figures are given in pounds sterling, and are rounded off to the nearest pound.







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	23 0

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**WALTER H. HYDE, General Manager.**



## COMPANY NOTICES.

## North Staffordshire Railway.

NOTICE is hereby given that the North Staffordshire Railway Company, Limited, has been appointed by the Board of Directors to receive and manage the business of the North Staffordshire Railway Company, Limited, and to carry out the same.

## East Indian Railway.

NOTICE is hereby given that the East Indian Railway Company, Limited, has been appointed by the Board of Directors to receive and manage the business of the East Indian Railway Company, Limited, and to carry out the same.

By order

## The Buenos Ayres Great Southern Railway Company, Limited.

THE Board of Directors of the Buenos Ayres Great Southern Railway Company, Limited, has decided to accept the offer of the Government of the Province of Buenos Aires to purchase the shares of the Company, and to carry out the same.

OFFICIAL APPOINTMENTS TO THE RAILWAY SERVICE. The following appointments have been made by the Board of Directors of the Railway Service:

## The Great Western of Brazil Railway Bombay, Baroda, and Central India Railway Company, Limited.

NOTICE is hereby given that the Great Western of Brazil Railway Company, Limited, has been appointed by the Board of Directors to receive and manage the business of the Great Western of Brazil Railway Company, Limited, and to carry out the same.

## TENDERS INVITED.

## The South Indian Railway Company, Limited.

THE South Indian Railway Company, Limited, has decided to accept the offer of the Government of the Province of Madras to purchase the shares of the Company, and to carry out the same.

## The Great Indian Peninsula Railway Company.

THE Directors are prepared to receive tenders for the construction of the Great Indian Peninsula Railway Company.

tion, which payment will not be returned, addressed to the undersigned, marked "Tender for

## THE Directors are prepared to receive tenders for the construction of the Great Indian Peninsula Railway Company.

The Directors are prepared to receive tenders for the construction of the Great Indian Peninsula Railway Company.

Office: Gloucester House, 110, Bishopsgate, London, E.C., 10th July, 1913.

## The Bengal and North-Western Railway Company, Limited.

THE Directors are prepared to receive tenders for the construction of the Bengal and North-Western Railway Company, Limited.

The Directors are prepared to receive tenders for the construction of the Bengal and North-Western Railway Company, Limited.

as the case may be, and with the name of the firm which has submitted the tender.

July, 1913.

which cannot under any circumstances be returned.

Tenders to be submitted to the Secretary of State for India in Council.

London-India Office.

BY Order of the Secretary of State for India in Council. Wanted for service on Indian Railways.

tenders.

The following tenders have been received from the following firms:

The following tenders have been received from the following firms:

The following tenders have been received from the following firms:

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The following tenders have been received from the following firms:

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## J. M. E. ALMSTEDT, Manager &amp; Secretary









## HALF-YEAR'S REVENUE.

From last week we reported on the half-yearly revenue and made an attempt at the explanation of the variations. It appears, however, to have been that of an unappreciated error in the true financial position of the larger companies, and this is scarcely matter for surprise when it is borne in mind that the published returns are affected by a variety of considerations.

In the first instance, owing to the operation of the Railway Accounts and Returns Act, 1905, the figures now being published weekly are not prepared on the same basis as was adopted in previous years. The explanation appears to be that in the new form of railway accounts the primary revenue account is confined to receipts and expenditure in respect of the railway undertaking. Thus it embraces gross receipts from passenger traffic, mails, parcels, merchandise, live stock, coal, coke, and minerals; in other words, passenger train and goods train receipts. It will be seen therefore that the results of revenue-earning parts of the undertaking which do not come directly under the head of "railway" are excluded. Under the old form of railway accounts, however, in addition to the items we have mentioned, there were included receipts from steamboats, docks, canals, rents of property, etc. The change in the form of accounts necessitated a revision of the basis of compiling the weekly traffic returns, hence the difference to which we have already alluded.

In consequence of the change in the basis of the accounts, the figures of the week ending July 6, 1913, are not comparable with those of the week ending July 6, 1912, in respect of the comparable period of last year's figures. To explain

TABLE A.—TRAFFIC RECEIPTS—FIRST TWENTY-SIX WEEKS.

Company.	1912, as published.	Adjusted for 1913, as published.	Increase.
Great Central ..	1,947,000	1,947,000	—
North Eastern ..	4,641,680	4,641,680	—
*Midland ..	6,035,000	6,035,000	—
L. & N.W.R. ..	6,850,000	6,850,000	—
Great Western ..	6,502,000	6,502,000	—
Great Northern ..	2,835,400	2,835,400	—
Lancs. & York. ..	3,062,803	3,062,803	—
S.E. & C.R. ..	2,289,431	2,289,431	—
L.B. & S.C.R. ..	1,474,100	1,474,100	—
L. & S.W. ..	2,508,800	2,508,800	—
Great Eastern ..	2,678,800	2,678,800	—

\* Including L.T. &amp; S.R. revenue.

TABLE B.—TRAFFIC RECEIPTS—FIRST TWENTY-SIX WEEKS.

Company.	Published figures.	Estimated addition or deduction.	Total of columns (a) and (b).	Figures as published in that year.	Increase.
Great Central ..	2,398,500	—	2,398,500	2,398,500	450,000
North Eastern ..	4,641,680	—	4,641,680	4,641,680	916,044
*Midland ..	6,748,000	—	6,748,000	6,748,000	1,100,000
Great Western ..	7,084,000	—	7,084,000	7,084,000	1,582,000
London and North Western Railway ..	7,638,000	—	7,638,000	7,638,000	782,000
Great Northern ..	3,123,500	—	3,123,500	3,123,500	287,100
Lancashire and York ..	3,062,803	—	3,062,803	3,062,803	—
South Eastern and Chatham Railway ..	2,289,431	—	2,289,431	2,289,431	—
London and South Western Railway ..	2,433,000	—	2,433,000	2,433,000	100,500
London, Brighton and South Coast Ry. ..	1,541,002	—	1,541,002	1,541,002	66,830
Great Eastern ..	2,678,800	—	2,678,800	2,678,800	74,000

\* Including L.T. &amp; S.R. revenue.

† The addition or deduction represents the difference between the published figures of 1912, as published, and the figures of 1913, as published, compiled on the same basis, i.e., the difference between the published figures of 1912, as published, and the figures of 1913, as published.

TABLE C.—TRAFFIC RECEIPTS FIRST TWENTY-SIX WEEKS.

Company.	1912, as published.	1913, as published.	1912, as published.	1913, as published.	1912, as published.	1913, as published.	Increase, 1913.
Great Central ..	1,952,000	2,398,500	1,952,000	2,398,500	1,952,000	2,398,500	446,500
Great Western ..	6,143,400	6,300,000	6,143,400	6,300,000	6,143,400	6,300,000	156,600
North Eastern ..	4,871,004	4,871,004	4,871,004	4,871,004	4,871,004	4,871,004	—
L. and N.W.R. ..	7,344,000	7,238,000	7,344,000	7,238,000	7,344,000	7,238,000	106,000
*Midland ..	6,100,714	6,047,070	6,100,714	6,047,070	6,100,714	6,047,070	53,644
S.E. & C.R. ..	2,289,431	2,009,742	2,289,431	2,009,742	2,289,431	2,009,742	279,689
Great Northern ..	2,881,100	2,832,100	2,881,100	2,832,100	2,881,100	2,832,100	49,000
Lancs. & York. ..	3,062,803	3,062,803	3,062,803	3,062,803	3,062,803	3,062,803	—
L.B. & S.C.R. ..	1,474,100	1,474,100	1,474,100	1,474,100	1,474,100	1,474,100	—
Great Eastern ..	2,514,500	2,514,500	2,514,500	2,514,500	2,514,500	2,514,500	—
L. & S.W. ..	2,202,500	2,202,500	2,202,500	2,202,500	2,202,500	2,202,500	—

\* Including L.T. &amp; S.R. revenue in each year.



The extent to which adjustments have been made we have prepared a chart in which the published figures for nine of the companies for the first twenty-six weeks of each year from 1907 to 1913 inclusive are shown, and in respect of the two last years we give the figures as published on the new basis and an estimate of what they would have been had no adjustment taken place.

The figures are set out in tabular form above, and in these tables are included the returns of several companies which could not conveniently be shown in the chart. Table A shows for the twenty-six weeks ended June 29 the aggregate receipts as published by the companies (the figures for 1912 being adjusted by them in the manner already explained), except that in the case of the Midland Company we have added to the 1912 total a sum representing the amount of the London, Tilbury and Southend Company's revenue now included in the Midland Company's returns.

Bearing in mind that the 1912 figures have been adjusted, the question naturally arises, what would the figures for the

L. & N.W. Company's adjustment of the 1912 figures, comparing the weekly revenue figures has had a considerably greater effect than in the case of the other companies. This feature is clearly brought out in our chart.

Apart from the adjustment of the figures, the published revenue returns for the past half-year have been misconstrued owing to the comparison with a period which was much disturbed by labour troubles, notably the coal strike. In order therefore to show clearly what the development of business has been over a series of years figures are given in Table C, showing the published revenue for the first twenty-six weeks of the years 1907 to 1913 inclusive. From these and the chart it will be seen that the largest growth of business in the period has been secured by the Great Western Company, whose total for this year compared with the year 1907 shows an increase of £1,074,600, or 17.49 per cent. The Great Central Company show the highest percentage of increase, viz., 20.20 per cent. We have thought it well to go thus closely into the railway companies' position bearing in mind that the interim dividends will shortly be declared. In certain quarters there appears to be undue expectation of high dividends, apparently due to misconception of the figures, and while we have every reason to believe that the interim announcements will be quite satisfactory, it would be unfortunate if, in the interval between the close of the half-year and their announcement, the stockholders were led to encourage too sanguine anticipations. As the *Times* remarked in a recent criticism: "The natural tendency will be to err on the side of conservatism."

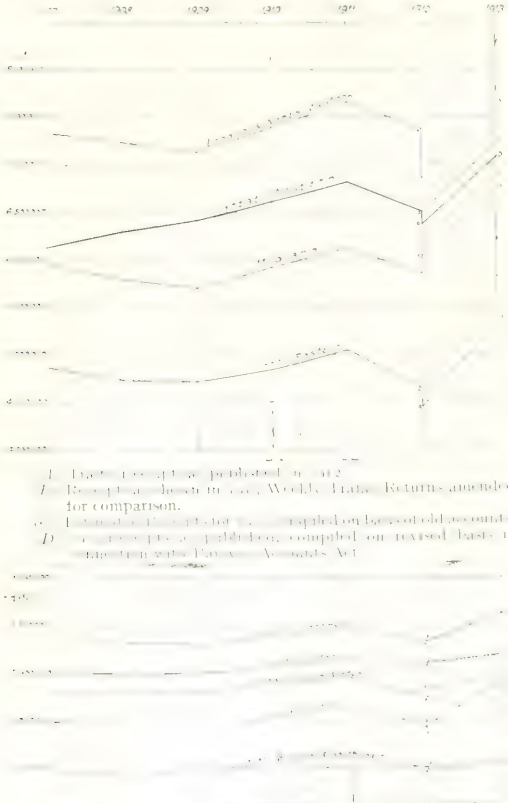
#### MIRROR SIGNALS FOR RAILWAYS.

A novel signalling system is being tried on German railways. Parabolic mirrors about 8½ ft. long are fixed on an axle on which they are revolved by means of electricity. They are worked during the day by sunlight and during the night are lighted up by electricity and can thus be seen at a great distance.



New Parabolic Mirror Signals.

even during the night. The new system is designed to direct the attention of the driver to the other way of the track, so that he can see the danger signal as otherwise it is not possible to do so. The mirror signals are being used extensively on the German State Railways.



Traffic Receipts for the first 26 weeks of the years 1907 to 1913.

current year would have been compiled on the basis of the new basis. In our Weekly Tables, therefore, this we give in Table B the totals for the year 1912 as published in that column. In Table C the published figures for the year 1913 are given. The figures for the year 1912 as published in the Weekly Tables are the same as those published in the Railway Accounts Act. The figures for the year 1913 as published in the Weekly Tables are the same as those published in the Railway Accounts Act.

A final point to be noted is that the figures for the year 1912 as published in the Weekly Tables are the same as those published in the Railway Accounts Act. The figures for the year 1913 as published in the Weekly Tables are the same as those published in the Railway Accounts Act.

THE BEST RAILWAY RUNS, 1913.

during the current holiday season. The runs attaining the highest number of runs are shown for the first time. The principal changes and innovations in the summer train services are detailed, and the date on which the respective companies commence their summer service is given in brackets at the head of each table.

Paddington to Plymouth (North Road) .....	225 <sup>3</sup>	4	4	0.30 a.m.
.....				Sats. D.
.....			57.8	3.30 p.m. D.
.....				1.45 p.m. U.
.....		2	30	57.1
.....				11.30 a.m. D.
.....				8.45 p.m. D.
.....			59.0	4.45 p.m. D.
Paddington to Bristol, via .....		2	0	11 a.m.
.....				1.15 p.m. D.
.....		2	0	58.8
.....				5.55 p.m. U.
.....				11.15 a.m.
.....				6.05 p.m. D.
.....			57.7	4.15 p.m. D.
.....			59	2.10 p.m.
.....			17	10.35 a.m.
.....			55	6.10 p.m.
.....				(Coaches.)
.....				10.30 a.m.
.....			57.5	3.30 p.m.
.....				11 a.m.
.....				4 p.m.

starting at 10.35 a.m., running non-stop to Frome, and stopping the Weymouth carriages at Westbury. That duplication is repeated, commencing July 10. Other improvements are as follows:

Roath) at 12.24 p.m., or half an hour earlier. The 2.14 p.m. North express from Bristol (0.25 a.m. from Manchester) is accelerated to arrive at Tonquay at 4.54 p.m. instead of at 5.16 p.m. A new connection is given to Fowey (arrives 0.45 p.m.) *via* Par off the 3.30 p.m. train from London, previously the last London connection was made off the 1.30 p.m. On Sundays the 11.0 a.m. Penzance to London is altered to run *via* Westbury instead of *via* Bristol, and thus reaches London at 4.50 p.m. instead of 5.00 p.m.

There are now 13 "two-hour" trains between London and Birmingham *via* Bicester, though only four of them are non-stop. A new "two-hour" train is the 8.0 p.m. up (4.35 p.m. from Birkenhead), which formerly left Snow Hill at 7.53 p.m., and reached London at 10.5 p.m. The Oxford, Reading, etc., portion of this train, previously slipped at Banbury, is now run as a separate train from Birmingham, starting thence at 7.50 p.m. Referring to the table of slips, the 6.5 train from London slips at Banbury, Leamington, and Lapworth, the latter furnishing a slip run of 97 miles. An important alteration in the Sunday service is that the old 11.55 a.m. from Wolverhampton and 12.35 p.m. from Birmingham now leave those places at 10.30 a.m. and 11.0 a.m. respectively, and is due at Paddington at 1.0 p.m. There is a new evening express service, with dining car, London to the West Midlands, which is provided by the extension of the 6.15 p.m. train, hitherto terminating at Oxford, to Worcester and Malvern.

An important express from South Wales, the 3.35 p.m. from Swansea, is accelerated to arrive at Paddington at 8.10 p.m. instead of at 8.30 p.m. There is a new week-end service between the Birmingham district and the Isle of Man *via* Liverpool. On Fridays and Saturdays, July 25 to August 10 inclusive, an express will leave Birmingham at 7.20 a.m. for the 10.30 a.m. sailing from the Mersey; and on Saturdays and Mondays, August 2 to 25 inclusive, an express will leave Birkenhead (Woodside) at 8.20 p.m., in connection with the 4.0 p.m. boat from Douglas. These trains will run non stop between Wolverhampton and Birkenhead, 86½ miles.

Lastly, the innovation of a Sunday service from the Channel Islands is being tried in conjunction with the London and South Western Company. Every Sunday in August a Great Western boat will sail from Guernsey at 10.0 a.m., and connect at Weymouth with the 4.0 p.m. train to Paddington, which is accelerated to reach London at 8.15 p.m., a dining car being attached at Westbury. Similarly the South Western will have a boat from Jersey at 10.0 p.m., sailing to Southampton and a breakfast car train thence due at Waterloo about 9.0 a.m.

The 10.40 a.m. express Manchester to London now leaves Crewe at 12.0 p.m., ceases to call at Stafford, where it formerly picked up a portion from Central Wales, the Cambrian line, etc., and is accelerated to arrive at Euston at 3.10 p.m. instead of at 3.20 p.m. The Central Wales train, which leaves Shrewsbury at 11.40 a.m., is run separately to London, arriving there at 3.20 p.m. The 11.0 a.m. train from Liverpool, with through carriages to Eastbourne and Brighton, now stops at Crewe, where the London carriages are attached to the 10.40 a.m. from Manchester, while the South Coast portion waits for the 11.20 a.m. from Manchester. Formerly this division took place at Rugby, the train being non-stop from Liverpool thither. The 5.20 p.m. dining car express from Liverpool to London leaves Crewe at 6.16 p.m., and interpolates a call at Willesden, the arrival time at Euston of 9.15 p.m. being unchanged. The starting time of the 4.0 p.m. train London to Manchester, and the 4.5 p.m. London to Liverpool, each represents an advance of 5 minutes. The London-Birmingham dining-car train service has been augmented since July 1 by a new "two-hour" express up, leaving New Street at 8.10 p.m. Since May 1 the Sunday service has been reinforced by expresses leaving Euston at 12.30 p.m., and Birmingham at 6.25 p.m. respectively, performing the journey in 2 hr. 10 min., and calling only at Willesden and Coventry.

There are no longer any genuine non-stop runs of 100 miles between the Birmingham district and North Wales. A new express residential service has, however, been instituted between Birmingham and Llandudno, 102 miles in 1 hr. 40 min. These trains, which do not run on Saturdays also serve Prestatyn, Rhyl, Colwyn Bay, and Deganwy. A through carriage to Fleetwood, for the Isle of Man boat, will be found on the 10.5 a.m. Perth express on Mondays, Fridays, and Saturdays until September 13.

#### GREAT CENTRAL RAILWAY (July 1)

Line	Distance Miles	No. of Trains	Quickest Time per Hour	Speed Miles per Hour	Quickest Train starts
W. to London via Crewe	104.1	4	2.5	127	2.20 p.m.
London to Crewe via Doncaster	104.1	4	2.5	127	9.50 a.m. D.
Midland to King's Cross	87	4	2.5	127	8.50 a.m.
York to Euston via Leeds	104.1	4	2.5	127	3.45 a.m.
London to Euston via Grantham	104.1	4	2.5	127	5.45 p.m. D.
London to Euston via Peterborough	104.1	4	2.5	127	11.42 a.m. (Frids. & Sats)

The main line programme of the Great Northern Railway is almost precisely the same as last season. The 8.0 a.m. restaurant car express from Newcastle to London now leaves York at 9.17 a.m. instead of at 9.50 a.m., calls at Grantham instead of at Doncaster, and reaches King's Cross at 1.30 p.m. or 10 minutes earlier than formerly. The new direct route between Peterborough and Stockton via Cammish is open. It is 12 miles shorter than the old route *via* Boston. The local service consists of four trains in each direction, and there is also a through express from Sheffield at 8.35 a.m., returning to Sheffield at 1.10 p.m. The 11.42 a.m. cut-off reduces the London to Euston via Peterborough to 104.1 miles, which is performed by 2.5 hours.

#### Midland Railway (July 1)

Line	Distance Miles	No. of Trains	Quickest Time per Hour	Speed Miles per Hour	Quickest Train starts
St. Pancras to Shapley	104.1	4	2.5	127	11.50 a.m.
London to Euston via Doncaster	104.1	4	2.5	127	9.50 a.m. D.
London to Euston via Leeds	104.1	4	2.5	127	3.45 a.m.
St. Pancras and Nottm	104.1	4	2.5	127	5.45 p.m. D.
London to Euston via Peterborough	104.1	4	2.5	127	11.42 a.m. (Frids. & Sats)

The 11.0 a.m. train from Liverpool, with through carriages to Eastbourne and Brighton, now stops at Crewe, where the London carriages are attached to the 10.40 a.m. from Manchester, while the South Coast portion waits for the 11.20 a.m. from Manchester. Formerly this division took place at Rugby, the train being non-stop from Liverpool thither. The 5.20 p.m. dining car express from Liverpool to London leaves Crewe at 6.16 p.m., and interpolates a call at Willesden, the arrival time at Euston of 9.15 p.m. being unchanged. The starting time of the 4.0 p.m. train London to Manchester, and the 4.5 p.m. London to Liverpool, each represents an advance of 5 minutes. The London-Birmingham dining-car train service has been augmented since July 1 by a new "two-hour" express up, leaving New Street at 8.10 p.m. Since May 1 the Sunday service has been reinforced by expresses leaving Euston at 12.30 p.m., and Birmingham at 6.25 p.m. respectively, performing the journey in 2 hr. 10 min., and calling only at Willesden and Coventry.

continued. The chief object was to render the Lake District more accessible from Leeds. In its place, a through train runs from Leeds (dep. 9.35 a.m.) to Keswick (arrive 12.50 p.m.), and from Keswick (dep. 12.35 p.m.) to Leeds (arrive 4.10 p.m.), every week day except Wednesdays and Thursdays. Additional stops at Ingleton and Kirkby Lonsdale have been put into the altered service.

The 7.10 p.m. Highland express, commencing July 14, will again run *via* Derby, and have supper cars attached thus far. It would prove an acceptable innovation, we believe, were restaurant cars added to the Highland expresses leaving Euston at 7.45 p.m. and King's Cross at 7.55 p.m. on their opening breaks to Crewe and Grantham respectively. The number of non-stop runs between St. Pancras and Nottingham includes that of the 11.33 a.m. third class Scotch express on Saturdays only, July 12 to August 30 inclusive. This train was the pioneer of one class holiday expresses, and its only stops between London and Carlisle are at Nottingham and Ilkley. A much improved service has been arranged between Newcastle and the Isle of Man *via* Harrogate, Skipton, and Heysham.

#### GREAT CENTRAL RAILWAY (July 1)

Line	Distance Miles	No. of Trains	Quickest Time per Hour	Speed Miles per Hour	Quickest Train starts
Marylebone to Sheffield	104.1	4	2.5	127	3.15 p.m.
Marylebone and Leicester	104.1	4	2.5	127	6.20 p.m. D.
via High Wycombe	104.1	4	2.5	127	1.32 a.m. U.
via Aylesbury	104.1	4	2.5	127	1.32 a.m. U.
By "Slip Coach"	104.1	4	2.5	127	1.32 a.m. U.
Marylebone to Leicester	104.1	4	2.5	127	3.15 p.m.

In conjunction with the Great Western Railway a new through night service has been established between the West and North of England by the extension of the 7.50 p.m. train from Bristol *via* Swindon, and Oxford to Leicester through to York. This train runs *via* Sheffield, and is due to arrive at York at 2.43 a.m., connecting there with the 3.12 a.m. East Coast express for Newcastle, Edinburgh, Aberdeen, etc. The 9.55 p.m. train from York to Leicester is altered to leave at 10.0 p.m., and run through to Bristol, where it connects with the early morning trains to South Wales and the West of England. The Great Central Company makes a speciality of cross-country services, and it is anticipated that this new one will be well patronised. There are no changes on the London main line.

The 100 miles non-stop runs on the North Eastern Railway are confined as usual to those between Newcastle and Edinburgh, nine in number, the fastest still accomplishing the distance of 124½ miles in 2 hr. 18 min., speed 54.1 miles per hour. An additional express service has been inaugurated between Sheffield (Midland) and Bridlington *via* Selby, 81½ miles. A train, with tea car, leaves Sheffield at 4.42 p.m., and is due at Bridlington at 6.25 p.m., the only stop being a conditional one at Rotherham to take up; while a breakfast car train starts from Bridlington at 7.55 a.m., and gets to Sheffield at 9.53 a.m., calling at Rotherham to set down. Last summer a through carriage to Stockton and West Hartlepool was run on the 1.40 p.m. train from King's Cross. This season it is transferred to the 1.5 p.m. from London (the special tourist express for Whitby and Scarborough), with the result that the duration of the journey is reduced by half-an-hour to Hartlepool, and by 16 minutes to Stockton.

The Great Eastern table of long runs presents no change, save that the starting time of the Norfolk Coast express is altered from 1.30 p.m. to 1 p.m., both down and up. The summer arrangements are a repetition of last season's, and came in force on July 1.

For the same reason, there is no necessity to recapitulate the 100 miles non-stop runs on both the Caledonian and London and South Western systems. Apart from certain new Sunday local services there is nothing which can be termed a new departure in the Caledonian time-table.

There are a few alterations in the South Western programme, which deserve notice. The 11.0 a.m. West of England service reverts to the triplication, which was omitted last year—viz., a 10.50 a.m. train from Waterloo for Exmouth and Plymouth; a 11.0 a.m. train, running from July 18 to September 29 for North Cornwall and Bude; and a 11.10 a.m. train for North Devon, Ilfracombe, and Torrington. Both the 10.50 a.m.



THE SOUTHAMPTON BOAT TRAIN, which will start at 12.50 p.m., and cease to convey passengers for Lyme Regis and Seaton, who will travel by the 1.0 p.m. Plymouth train instead. And the Plymouth train will start from Exeter at 10.24 a.m., and be correspondingly earlier throughout. The Southampton boat train in connection with the Havre and Channel Islands steamers is composed of corridor carriages and a restaurant car, supper being served on the down journey, which commences at 9.45 p.m., and breakfast on the up.

The longest non-stop running on the North British Railway is still between Carlisle and Edinburgh, 98½ miles. This season the "Lothian Coast Express," of which a full description was furnished at its inauguration in 1912, is in service on Saturdays; while the express train between Edinburgh and the Fife-shire coast resorts, viz., Edinburgh dep. 4.42 p.m., Crail arr. 6.27 p.m. Crail dep. 7.30 a.m., Edinburgh arr. 9.25 a.m., commenced to run on July 1, a month earlier than usual. Lastly, through carriages and through sleeping saloons have been provided between King's Cross and North Berwick, the former on the 11.20 a.m. down and the 12.30 p.m. up, and the latter on the 11.45 p.m. down and the 12.15 p.m. up.

### RAILWAY CASES IN THE COURTS.

#### DAMAGES FOR LOSS OF PIGS.

Judge Amphlett, K.C., delivered judgment against the Great Western Railway Company, at Birmingham County Court, on July 3, in an action brought by Geo. Samworth to recover £16 damages for loss of four pigs during transit from Winchcombe, Gloucestershire, to Bordesley. The distance between the two places was between 40 and 50 miles. The pigs were loaded too late for the train which left Winchcombe shortly after two o'clock, and the next train left shortly after seven o'clock, and was not due to reach Bordesley until 6.25 the following morning. The train did not reach Bordesley until 8.25, a delay which was in a large measure due to the effects of the snow and fog, which had caused the traffic to become congested all along the line. On the arrival of the train at Bordesley it was found impossible to unload the pigs, and they were sent on to Bordesley Junction, returning to the station at 12.25 p.m., the pigs having been in the trucks 22 or 23 hours. When unloaded, four were found to be dead. His Honour found that death was due to exposure and weakness caused by want of food. No communication was made to the plaintiff of defendants' inability to unload the pigs at Bordesley station. Had that been done, the lives of the pigs might in all probability have been saved. Plaintiff's claim, however, could not exceed £2 for each pig, and he, therefore, gave judgment for plaintiff for £8 with costs. His Honour granted a stay of execution pending leave to appeal.

#### SOUTHERN DEMURRAGE ACTION.

In Dunfermline Sheriff Court, on July 2, the North British Railway Company claimed 7s. 6d. for five days' demurrage on a wagon of sand delivered to William Brown, contractor, Lochgelly. The Sheriff, in granting absolvitor with expenses, said that he could not hold that delivery of the wagon on a siding which the pursuers knew did not belong to the defender could be regarded as intimation to him of its arrival. There was no necessary room for presuming that the defender knew of the arrival of the wagon. There might be no duty on the carriers to give notice, but they could not hold the consignee in default if, in fact, he was unaware of its arrival, and there were no circumstances which imposed upon him the duty of knowing. In the present case there were no such circumstances. If he (the Sheriff) was right in these contentions it was apparent that the pursuers never tendered the sand to the defender at all, and the question of the reasonable period for taking delivery did not arise. There was no evidence that the defender delayed unduly to take delivery when he had knowledge of the arrival of the sand.

Captain F. G. Wright, assistant district engineer in charge of the Great Western Railway, has been appointed to the post of district engineer in charge of the Wiltshire and Dorset part of the Railway. He has been in the works.

## MEETINGS AND REPORTS.

### FORTHCOMING MEETINGS.

July 15 (Wed.)	Egyptian Delta Light Railways
July 16 (Thurs.)	Buenos Ayres Great Southern Railway (Extraordinary), Salisbury House, E.C., at 3.15.
July 17 (Fri.)	North and South Western Junction Railway
July 18 (Sat.)	Manda Railway
July 19 (Sun.)	East Indian Railway
July 20 (Mon.)	Egyptian Delta Light Railways (4 per cent Extraordinary), at 3.15.

Reports, Traffic Returns, Prospectuses, and all other items of financial interest, should be sent to the Secretary, THE RAILWAY TIMES, 12, Abchurch Lane, London, E.C. 4, before the 10th of the month preceding the date of the meeting.

### LIGHT RAILWAYS FOR KENT COAL AND PASSENGERS.

THE ASSOCIATION OF SOUTH-EASTERN RAILWAY COMPANIES.

Proceedings of the Association of the Light Railways Companies, held at the London and South-Eastern Railway Company, on July 10, 1913. Mr. S. J. Stephens, Chairman, presided. The meeting would confirm him in the statement that they had beaten all records since the day of the first meeting to establish the railway. He thought they had made more progress in this country in connection with light railway enterprise. At the end of December, the date to which their accounts were made up, the capital expended was £1,000,000. The Light Railways Company had practically revolutionised the face of East Kent between, say, Sandwich, Canterbury, Dover, and Margate. The progress of the Light Railways Company, Mr. Stephens, and it was very much to his credit. Although he had won many laurels in different parts of England, he did not think Mr. Stephens had done more for them. Whenever he (the chairman) thought of their railway, he could not but think of the fact that they were the first to know and realise the importance of the Light Railways Company to the people. If the South-Eastern Railway Company, for instance, had had their eyes a little wider open a few years ago, he thought they would have taken the powers, but he did not know they had not a Kent coal and passenger railway. He knew Sir William Hart-Dyke, a director, did not for one moment think of the Light Railways Company.

Mr. Stephens said that if they had been in the position of being controlled either by a big railway system or by a big coal company, they would have been in a magnificent position. As it was, the competing syndicates would be to their disadvantage. They had always had every intention of treating everybody fairly. The railway was open for their traffic, or the traffic, of course, of other collieries, if necessary, over the contractor's temporary line all the way from Shepherdswell to Wingham. It served Tilmanstone, and it served the other stations. Mr. Stephens had told him that before the end of the

hostility to the South-Eastern and Chatham Railway. Since they had shown every disposition to meet them. The Light







# PARLIAMENTARY.

## PROGRESS OF RAILWAY BILLS.

### Preferential Rating for three Irish Railways.

A Select Committee of the House of Lords, with Lord Ribblesdale as Chairman, on July 3 had before them for consideration the Belfast Corporation (General Powers) Bill, which had passed the House of Commons. The Corporation asked for authority to execute certain works for the reclamation of 700 acres of slob land in Belfast Lough, in order to abate a nuisance caused by decaying seaweed. The Great Northern Railway of Ireland, the Belfast and County Down Railway, and the Midland Railway Company asked for the insertion of the appended clause on the Bill:—"In respect of any increase of or addition to the general purposes rate which may be made for any of the purposes of this Act, all the lands used as a railway constructed under the powers of any Act of Parliament shall be assessed and liable in the proportion of one-fourth only of the net annual value of such lands." Mr. Talbot, K.C., on behalf of the first-mentioned company, contended that in every general statute, whether it applied to England or to Ireland, relating to expenditure designed for the preservation of the public health, railways were rated at only one-fourth of their valuation. The only cases in which that had been departed from were cases in which, for some reason or other, special enactments referred to special towns. Mr. Vesey Knox, K.C., for the Belfast and County Down Railway, said it was only that portion of the assessment which was for running lines that would benefit by the exemption sought. In Belfast they had already three-fourths exemption from water expenditure and main drainage expenditure, and he thought Belfast ought not to have put them to the expense of fighting this point, but have extended the exemption without it. The Committee decided the Bill might proceed with the addition of the railway companies' clause.

### Metropolitan Railway.

This Bill, which has already been passed by the House of Lords, came before a Committee of the House of Commons on Tuesday. Some of the original proposals were rejected by the Lords' Committee, and as the Bill now stands its main objects are to vest the undertaking of the Great Northern and City Railway in the Metropolitan Railway and to provide for the extension of the former railway from Finsbury Pavement to Lothbury. It was announced that under an agreement with the Great Northern Railway Company authority would be

sought next year to construct a physical junction between the Great Northern and Great Northern and City systems at Finsbury Park, thus providing a through route—when the Lothbury extension was completed—from the Great Northern Railway to the City. The original cost of the Great Northern and City line was £2,400,000, and the cash value of the stock which the Metropolitan Railway were issuing in exchange for the stock of the Great Northern and City Company was £1,225,000. On Wednesday the Committee passed the Bill.

### City and South London Railway.

On Wednesday a Committee of the House of Commons passed this Bill (which has already been sanctioned by the House of Lords). The main objects are to increase the size of the tunnels so as to permit of through trains to and from the Charing Cross, Euston and Hampstead Railway being run, and to raise additional capital. The London Electric Railway Company have a Bill now before Parliament to enable the junction line being made at Euston between the City and South London and the Charing Cross and Hampstead Railways.

### Post Office (London) Railway.

This Bill, which proposes a railway of a novel character, came before a Select Committee of the House of Commons in the end of last week and the proceedings were continued during the present week. In opening for the Postmaster-General, who is the promoter of the Bill, Mr. Fitzgerald, K.C., said that the proposal was to construct an underground tube railway for the purpose of enabling the Post Office to cope satisfactorily with the largely-increasing volume of mails which had to be transmitted between the various London post-offices and the great railway stations. The advantages which the Post Office expected from the scheme would be acceleration in transmitting mails and parcels, a reduction in the large expenditure on road vans, and a relief of the congestion in the streets by the withdrawal of a large number of horsed and motor vans. The railway was urgently needed owing to the great and increasing growth in the volume of mails. The proposed railway would start under the Eastern District Post Office in Mile End Road, and proceed by way of Liverpool Street to the General Post Office, then to Mount Pleasant Parcel Office, then to the Western Central District Post Office, along New Oxford Street, to the Western District Parcel Office, and then to Paddington District Post Office and Paddington Station. Subsequently other tubes would be constructed between post-offices and the great railway termini on the north and south sides of London. The tunnel, containing two tracks, would be constructed by means of metal shields driven forward by hydraulic pressure. There would

## PROGRESS OF RAILWAY BILLS.

The following tables show the progress of Railway Bills to date:—

TABLE I.—BILLS INTRODUCED IN THE HOUSE OF LORDS.

Name of Bill.	House of Lords.			House of Commons.			Revised Assent.
	Second Reading.	Committee.	Third Reading.	Second Reading.	Committee.	Third Reading.	
Great Eastern Railway (Extension) Bill	April 10	June 10	May 5	June 10	June 10	June 10	July 4
Great Northern and City Railway Bill	May 10	June 10	May 10	June 10	June 10	June 10	July 4
Great Northern and City Railway (Extension) Bill	May 10	June 10	May 10	June 10	June 10	June 10	July 4
Great Northern and City Railway (Extension) Bill	May 10	June 10	May 10	June 10	June 10	June 10	July 4
Great Northern and City Railway (Extension) Bill	May 10	June 10	May 10	June 10	June 10	June 10	July 4
Great Northern and City Railway (Extension) Bill	May 10	June 10	May 10	June 10	June 10	June 10	July 4
Great Northern and City Railway (Extension) Bill	May 10	June 10	May 10	June 10	June 10	June 10	July 4
Great Northern and City Railway (Extension) Bill	May 10	June 10	May 10	June 10	June 10	June 10	July 4
Great Northern and City Railway (Extension) Bill	May 10	June 10	May 10	June 10	June 10	June 10	July 4
Great Northern and City Railway (Extension) Bill	May 10	June 10	May 10	June 10	June 10	June 10	July 4

TABLE II.—BILLS INTRODUCED IN THE HOUSE OF COMMONS.

Name of Bill.	House of Commons.			House of Lords.			Revised Assent.
	Second Reading.	Committee.	Third Reading.	Second Reading.	Committee.	Third Reading.	
Galway (Barnes) Railway and Harbours Bill	June 10	June 10	June 10	June 10	June 10	June 10	July 4
Galway (Barnes) Railway and Harbours Bill	June 10	June 10	June 10	June 10	June 10	June 10	July 4
Galway (Barnes) Railway and Harbours Bill	June 10	June 10	June 10	June 10	June 10	June 10	July 4
Galway (Barnes) Railway and Harbours Bill	June 10	June 10	June 10	June 10	June 10	June 10	July 4
Galway (Barnes) Railway and Harbours Bill	June 10	June 10	June 10	June 10	June 10	June 10	July 4
Galway (Barnes) Railway and Harbours Bill	June 10	June 10	June 10	June 10	June 10	June 10	July 4
Galway (Barnes) Railway and Harbours Bill	June 10	June 10	June 10	June 10	June 10	June 10	July 4
Galway (Barnes) Railway and Harbours Bill	June 10	June 10	June 10	June 10	June 10	June 10	July 4
Galway (Barnes) Railway and Harbours Bill	June 10	June 10	June 10	June 10	June 10	June 10	July 4

be possible at busy times to run the trains at one minute intervals. It was intended to have stations under the various post-offices, and arrangements would be made for the rapid transit of the mails from the post-offices to the trains and from the trains to the post-offices. The railway would be  $6\frac{1}{2}$  miles in length, and it would be constructed so that the contemplated extensions could be brought into use without necessitating any alteration in the original part of the work. The electric energy required for working the line would be obtained from the Postmaster-General's existing generating station at Blackfriars. Application was being made for power to spend, if necessary, £1,100,000, though the estimated cost of the construction of the line was only £604,000. A large number of petitions had been presented against the Bill by people under whose property the railway would run, by railway companies,

many protective clauses. Evidence was afterwards heard for the Bill.

Among the witnesses was Sir Robert Bruce, controller of the London postal service, who stated that the saving in time between the Eastern district office and Paddington Station—the full length of the railway—would be fifty-five minutes for parcels and thirty-one for letters. Twenty-six million letters were delivered every week in London, and thirty-seven million were posted. More than half the number of letters delivered in London were posted in London, and the proposed railway would greatly accelerate the delivery of those letters. Mr. Dalrymple Hay, consulting engineer to the Post Office, stated that in his belief the proposed work could be completed within fourteen months of the sinking of the shafts. He estimated that the total cost of the actual work would be about £773,052. There was no likelihood of the proposed line doing damage to Liverpool Street Station. Mr. W. Slingo, engineer-in-chief to the Post Office, described the system of lifts and shoots from or to the trucks at the stations which it was proposed to adopt. The electric current, of which, he estimated, three million units annually would be required, would be generated at the existing Post Office station at Blackfriars. The trains would not have drivers, but at each station there would be a switchman to set the points and render "alive" the portion of the track to which the train was bound. There would always be a "dead" section between a train at a station and another train approaching. The switchman would be able to make a train motionless at any given moment. Any contractor of substance would be allowed to tender for the provision of the electrical equipment. There would be specially constructed trucks to deal with blocks and breakdowns.

On Thursday Mr. Fitzgerald announced that an agreement had been arrived at with the various railway companies except the Great Eastern Company, and that a clause for the protection of land-owners on the route had been accepted by the City Corporation and others, under which the Postmaster-General had agreed to pay the expenses of a qualified engineer who, subject to arbitration, would have the supervision of the construction work in the joint interest of the owners.

Mr. Freeman, K.C., for the Great Eastern Railway Company, urged that in the interests of safety the tube should be constructed on the compressed air method, and that the site of the proposed station at Liverpool Street should now be decided on. The Great Eastern Company were seriously considering the construction of a new underground station at Liverpool Street. If the station were constructed it would have to be placed over the Post Office station. The company asked that the Postmaster-General should recompense them for any extra cost in the construction of their station which the existence of the tube involved. In the evidence which was then heard for the company it was stated that the tube would pass directly under some of the pillars supporting the roof, and if the construction of the tube caused a displacement of less than an inch in the case of a pillar probably the greater part of the roof would fall. Even if the tube were 20 ft. in the clay there would be considerable risk in placing it under the station.

**Canadian Railway Earnings.** The gross earnings of all

## GENERAL NEWS.

### THE INCREASED IRISH RATES.

Cork have decided to appear before the Railway and Canal Commission to oppose the proposed increase of rates for coal in operation for the carriage of goods and minerals, merchandise, parcels, etc.

Dublin has requested the Board of Trade and the Department of Agriculture and Technical Instruction in Ireland for some

### PARAFFIN AS MOTOR FUEL.

A demonstration of the Southey oil gas producer was given on Thursday at the works of Commercial Cars, Ltd., at Luton, before a number of press representatives. Hitherto each of the attempts to use paraffin as a motor fuel has been in the form of vapourisers, which either entail the use of high grade oil or the separate use of petrol for the purpose of starting the engine. The Southey oil gas producer is not a vapouriser, and requires no petrol, even for starting from the cold; it can be fitted to any type of internal combustion engine without any alteration to any part of the engine, and the engine can be started up in exactly the same manner as when running on petrol. Moreover, the cheapest grade of oil can be used and the consumption is no higher than that of petrol, costing from two to three times the price. The demonstration was completely successful, and as the present cost of petrol is so seriously affecting the industrial motor industry, it may be hoped that the Southey

### EASTERN AMERICAN RAILWAYMEN'S DEMANDS.

A committee of the managers of the Eastern Railways met a committee of conductors and trainmen on July 8, at Washington, when the demands of the men were submitted. The managers expect a strike, as they have been informed that more than 90 per cent. of the men have voted in favour of going out if their demands are not accepted. Three years ago, the managers say, the conductors and trainmen were granted an annual increase of wages of between £5,000,000 and £6,000,000, or about 50 per cent. The pay of the engineers last year was raised by £100,000 and that of the stokers this year by £750,000. If the present increase of 20 per cent. were now conceded it would mean that in the last three years wages would have been increased by over £10,000,000. These charges must be paid by the travelling public, and the managers claim that they are protecting the public against the unwarranted demands of the railway employees, especially as the wages now paid are held to be liberal and in some cases excessive, while the Interstate Commerce Commission refuses to permit the railways to recoup themselves by advancing freight rates.

### IMPORTANT GOODS WORKING AGREEMENT.

avoiding trans-shipment, and establishing an improved

entrusted to any one of them will be forwarded, not necessarily by the particular company which receives the goods, but by the company which is the nearest to the destination route. An indication of the great convenience which

system. When a company is named in the book direct to the company

leave to direct that they may be given to the officers of the other company, and the latter will arrange for them to be despatched by the proper route." Among other things the handbook gives a list of towns and places served by the three railways, each place marked with an indication showing the best route for conveyance of goods from London. The handbook may be obtained from the goods manager of the Midland and London and North-Western Railways at 13, Abchurch Lane, Street, L.C., and Broad Street Station, L.C.

### INTER-RAILWAY AMBULANCE COMPETITION.

Awards will be made by the Midland Association of the Inter-railway Ambulance Competition, the group consisting of the London, Reading and South Coast, the Great Central, and the London and North-Western, at the St. John Ambulance Association, 10, St. John's Street, London, E.C. 4, on the 15th inst. The prizes will be given to the ambulance which has the best record in the competition. The ambulance which has the best record in the competition will be awarded the challenge shield and prizes. The ambulance which has the best record in the competition will be awarded the challenge shield and prizes. The ambulance which has the best record in the competition will be awarded the challenge shield and prizes.

after punishment lead to a difficult position, and the necessity for them should be avoided."

The interpretation of this recommendation which the Midland Company has adopted, and on which, in future, the management will act, is that a man charged with an offence shall have full rights of appeal against a sentence, and shall be allowed at such appeal, which will be heard within seven days, to call witnesses and to have the services of a "spokesman." The "spokesman," where important questions are involved, will probably be one of the Executive officials of "The Railwaymen's Union."

### BOOK NOTICES.

#### "Sane Trade Unionism" and Other Volumes

The National Library (Collins Clear Type Press, London and Glasgow) consists at present of twenty small octavo volumes, the outstanding feature of which is specialised information by the most competent authorities. Each number is printed in clear type, runs to about 270 pages including an index, and the price of each in full cloth is 18s. net. No 1 has been specially written for the series by Mr. W. V. Osborne on



Inter Railway Ambulance Challenge Shield and Prizes won by the Furness Railway Team.

### NEW MIDLAND RULES FOR EMPLOYEES' APPEALS.

The Midland Railway Company has issued new rules for employees' appeals. The rules are as follows:—  
1. Any employee who is charged with an offence shall have the right to appeal against the sentence imposed by the management.  
2. The appeal shall be heard by a committee of three members, one of whom shall be a representative of the employees.  
3. The appeal shall be heard within seven days of the date of the sentence.  
4. The employee shall be allowed to call witnesses and to have the services of a spokesman.  
5. The decision of the committee shall be final, subject to a review by the management at a later date.

The new rules are a result of the recommendation of the Midland Railwaymen's Union, which has been adopted by the management. The union has been successful in its efforts to secure the right of appeal for employees, and the management has agreed to implement the union's recommendation. The new rules are a significant step towards the establishment of a system of appeals for employees, and it is hoped that they will be a model for other railways to follow.



**Permanent Way Institution Journal.**

The *Journal of the Permanent Way Institution* (London, The Institution of Electrical Engineers, 1913) contains a number of papers of interest. "Domestic Information" is given, including the names of the council elected for 1913, of which Mr. George T. Sibbering, F.R.S.E., is president. Some of the papers read at the various sectional meetings are reproduced, namely:—"A few remarks regarding the electrification of the Brighton Railway" (illustrated), by Philip Dawson; "Rail Creeping" (with diagrams), by E. Treacher; "The Construction of Permanent Halts" (illustrated), by H. R. M. ...; "The Construction of Permanent Halts" (illustrated), by H. R. M. ...; "Track beds and ballast" (illustrated), by W. H. Hammond; "The Deduction of the Crossing Lead Formula" (with diagrams), by A. L. Westwick.

**Manual of Electrical Undertakings.**

This admirable manual, now in its fourteenth year, which is indispensable to everyone concerned in the electrical industry, includes a useful directory of officials, and is compiled under the direction of Mr. Emile Parcke. It contains full statistics, brought up to date, of electric lighting, power, and traction works in operation or projected in Great Britain and Ireland, India, and all British Colonies. The present volume contains 850 plus excise pages (8½ in. by 5½ in. by 2½ in.), and is published at 21s. net by the Electrical Press, Ltd., 13-16, Fisher Street, near Kingsway, London, W.C. "Parcke's Manual" needs no praise. It only remains to be said that it fully maintains the reputation it has gained in all these years as a reliable book of reference. The only new feature of the previous, viz., the large map showing electric light, power and traction undertakings in the United Kingdom, is again issued as a separate supplement, being too large to be inserted in the Manual itself.

**Franco-British Travel.**

The summer number of "France," the official organ of the Franco-British Travel Union, contains a number of well-illustrated articles on tours and places of resort in France. The Union is doing successful work in encouraging travel by British people in France and by French people in Britain. Arrangements are now being made for holding in London in September next a congress of the Union, at which discussions will take place on such subjects as transportation, Customs formalities, hotels, publication of a calendar of attractions and sports, and means of securing greater publicity for travelling facilities. The congress is under very distinguished patronage both British and French, members of both Governments being on the "Comité d'Honneur." The President of the French Republic stands at the head of the list. Lord Montagu of Beaulieu is president of the Council organising the congress.

**PERSONAL.**

Dr. Frias,

Mr. John Saxby.

American Appointments.

Mr. W. C. Nixon and Mr. W. M. Biddle, former Vice-presidents.

Mr. C. H. Staines, has received a presentation from the

The Oldest Working Guard.

capacity of another in running trains. He retired on July 1. Mr. J. Kidd, on retiring from the post of station-agent at

The Oldest Working Guard.

Mr. L. Hooten, J.P., has severed his connection as an employee in order to take a position at the London office of the National

Sir David Stewart, chairman of the Great North of Scotland R. & E. Co., has been elected to the locomotive workmen's club. The land was given by the directors, and the cost of constructing the green was defrayed

appreciated. In these days it was satisfactory when employers feeling of jealousy. He was pleased that the directors had been able to do something for those who were working for their daily bread, harder, perhaps, with their hands than the directors worked with their heads, although some of them did work pretty hard.

Mr. Collingswood B. Brown

is located at Moncton. The late chief assistant engineer to the Canadian Pacific Railway spent most of the morning following the announcement of his appointment receiving officials to congratulate him and express their regrets regarding his departure from the railway since graduating in civil engineering at Cornell, fourteen years ago, has stated he is quite familiar with the Maritime Provinces, and that he is looking forward with keen interest to assisting in the building up of the Inter-

he added, "and there are wonderful possibilities for the Government road."

**North Eastern Appointments.** The directors of the North Eastern Railway have made the following appointments in connection with the vacancy caused by the transfer of Mr. C. S. Page, formerly district goods manager, Leeds, to Hull, viz. Mr. A. Brown, assistant district goods manager, Hull, to be district goods manager, Leeds; Mr. O. Fletcher, chief clerk, divisional goods manager's office, Newcastle, to be assistant district goods manager, Hull. Mr. Brown has served

and accountants' department of the North Eastern, and also in the general manager's department of the Cumbrian Railways. Mr. Fletcher's service has been chiefly in the general

**OFFICERS OF THE FLEETSS RAILWAY.**

given in a descriptive article relating to the line radiated in

Mr. Alfred Aslett, J.P., the secretary and manager, has had colleagues on British railways, and much of the growth of the began in 1862 with the Great Northern Railway at Northgate

the employees he received several honours and awards.

His apprenticeship on the North British Railway, and later



## RAILWAY STOCK AND SHARE LIST.

### HOME RAILWAY ORDINARY STOCKS.

[illegible]

### Debenture Stocks.

[illegible]

## Debenture Stocks

North-east	1	1	11
North-west	1	1	11
Port Talbot Railway and Dock	4	1	11
Rhymney Perpetual	4	1	11
South-eastern Perpetual	4	1	11
Whitchapel and Bow	4	1	11

### Preference Stocks—

(continued).



## RAILWAY STOCK AND SHARE LIST.

### Colonial Railways.

### Foreign Railways.

[illegible]

### American Railways.

Asset: All S. & C
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# OFFICIAL TRAFFIC RETURNS.

## Barry.

Week ending July 5	1913	1912
Total for week	£11,000	£11,000
Aggregate for 27 weeks	£294,000	£294,000
Miles open	68 1/2	68 1/2

## Calonian.

Week ending July 5	1913	1912
Passengers, etc.	2,539,000	2,265,500
Goods, etc.	1,114 1/2	1,114 1/2
Total for week	£11,000	£11,000
Aggregate for 27 weeks	£294,000	£294,000
Miles open	68 1/2	68 1/2

## Cambrian.

Week ending July 5	1913	1912
Passengers, etc.	2,539,000	2,265,500
Goods, etc.	1,114 1/2	1,114 1/2
Total for week	£11,000	£11,000
Aggregate for 27 weeks	£294,000	£294,000
Miles open	68 1/2	68 1/2

## Central London.

Week ending July 5	1913	1912
Total for week	£4,777	£4,440
Aggregate for 27 weeks	£127,352	£127,352
Miles open	160	160

## City and South London.

Week ending July 5	1913	1912
Total for week	£4,777	£4,440
Aggregate for 27 weeks	£127,352	£127,352
Miles open	160	160

## Dublin and South Eastern.

Week ending July 5	1913	1912
Passengers, etc.	£5,543	£5,543
Goods, etc.	1,690	1,690
Total for week	£7,233	£7,233
Aggregate for 27 weeks	£194,800	£194,800
Miles open	160	160
Inc. 27 weeks	£4,226	£4,226

## Furness.

Week ending July 5	1913	1912
Passengers, etc.	£3,923	£3,615
Goods, etc.	1,690	1,690
Total for week	£5,613	£5,305
Aggregate for 27 weeks	£152,800	£152,800
Miles open	160	160
Inc. this week	£1,002	£1,002
Inc. 27 weeks	£3,557	£3,557

## Glasgow and South Western.

Week ending July 5	1913	1912
Passengers, etc.	£23,500	£21,100
Goods, etc.	21,500	21,600
Total for week	£45,000	£42,700
Aggregate for 27 weeks	£1,215,000	£1,215,000
Miles open	68 1/2	68 1/2

## Great Central.

Week ending July 5	1913	1912
Passengers, etc.	£27,800	£27,800
Goods, etc.	72,100	70,900
Total for week	£99,900	£98,700
Aggregate for 27 weeks	£1,118,500	£1,118,500
Aggregate for 27 weeks	£2,978,400	£2,978,400
Miles open	805 1/2	805 1/2

## Great Eastern.

Week ending July 6	1913.	1912.
Passengers, etc.	£124,100	£129,400
Goods, etc.	2,864,850	2,734,100
Total for week	£2,988,950	£2,863,500
Aggregate for 27 weeks	£78,700	£78,700

## Great Northern.

Week ending July 5	1913.	1912.
Passengers, etc.	£57,600	£55,000
Goods, etc.	73,100	67,500
Total for week	£130,700	£122,500
Aggregate for 27 weeks	£3,254,200	£2,960,500
Miles open	11 1/2	11 1/2

## Great Northern (Ireland).

Week ending July 5	1913.	1912.
Passengers, etc.	£26,258	£24,598
Goods, etc.	£559,452	£529,770
Total for week	£585,710	£554,368
Aggregate for 27 weeks	£15,800	£15,800
Miles open	11 1/2	11 1/2

## Great North of Scotland.

Week ending July 5	1913.	1912.
Passengers, etc.	£20,709	£19,299
Goods, etc.	£10,781	£10,781
Total for week	£31,490	£30,080
Aggregate for 27 weeks	£254,240	£254,240
Miles open	356 1/2	356 1/2
Inc. this week	£580	£580

## Great Southern and Western.

Week ending July 5	1913.	1912.
Passengers, etc.	£20,709	£19,299
Goods, etc.	£10,781	£10,781
Total for week	£31,490	£30,080
Aggregate for 27 weeks	£254,240	£254,240
Miles open	1,130 1/2	1,130 1/2

## Great Western.

Week ending July 6	1913.	1912.
Passengers, etc.	£164,000	£152,000
Goods, etc.	£48,700	£47,000
Total for week	£212,700	£199,000
Aggregate for 27 weeks	£7,393,000	£6,657,000
Miles open	3,007 1/2	3,005 1/2
Inc. this week	£18	£18

## Highland.

Week ending July 6	1913.	1912.
Passengers, etc.	£10,512	£9,512
Goods, etc.	£5,907	£5,907
Total for week	£16,419	£15,419
Aggregate for 27 weeks	£440,955	£393,743
Miles open	£587	£587
Inc. this week	£587	£587

## Hull and Barnsley.

Week ending July 6	1913.	1912.
Passengers, etc.	£502	£430
Goods, etc.	£14,753	£14,753
Total for week	£15,255	£15,183
Aggregate for 27 weeks	£400,955	£393,743
Miles open	£587	£587
Inc. this week	£587	£587

## Lancashire and Yorkshire.

Week ending July 6	1913.	1912.
Passengers, etc.	£78,200	£71,520
Goods, etc.	70,264	63,543
Total for week	£148,464	£135,063
Aggregate for 27 weeks	£3,211,527	£2,995,206
Miles open	£8,245	£8,245
Inc. 27 weeks	£226,121	£226,121

## London, Brighton and South Coast.

Week ending July 5	1913.	1912.
Passengers, etc.	£16,034	£15,506
Goods, etc.	£77,545	£77,545
Total for week	£93,579	£93,051
Aggregate for 27 weeks	£1,618,547	£1,529,073
Miles open	£245	£245
Inc. this week	£245	£245

## London Electric.

Week ending July 5	1913.	1912.
Passengers, etc.	£15,085	£13,440
Goods, etc.	£224	£224
Total for week	£15,309	£13,664
Aggregate for 27 weeks	£415,000	£415,000
Miles open	£245	£245
Inc. this week	£245	£245

## London and North Western.

Week ending July 6	1913.	1912.
Passengers, etc.	£163,000	£151,000
Goods, etc.	£161,000	£160,000
Total for week	£324,000	£311,000
Aggregate for 27 weeks	£7,969,000	£7,167,000
Miles open	£15,000	£15,000
Inc. this week	£15,000	£15,000

## London and South Western.

Week ending July 5	1913.	1912.
Passengers, etc.	£43,720	£47,100
Goods, etc.	£5,200	£7,600
Total for week	£48,920	£54,700
Aggregate for 27 weeks	£1,243,400	£1,243,400
Miles open	£11 1/2	£11 1/2

## Metropolitan.

Week ending July 5	1913.	1912.
Passengers, etc.	£10,781	£10,781
Goods, etc.	£10,781	£10,781
Total for week	£21,562	£21,562
Aggregate for 27 weeks	£585,710	£585,710
Miles open	11 1/2	11 1/2

## Metropolitan District.

Week ending July 5	1913.	1912.
Passengers, etc.	£10,781	£10,781
Goods, etc.	£10,781	£10,781
Total for week	£21,562	£21,562
Aggregate for 27 weeks	£585,710	£585,710
Miles open	11 1/2	11 1/2

## Midland.

Week ending July 5	1913.	1912.
Passengers, etc.	£10,781	£10,781
Goods, etc.	£10,781	£10,781
Total for week	£21,562	£21,562
Aggregate for 27 weeks	£585,710	£585,710
Miles open	11 1/2	11 1/2

## Midland Great Western of Ireland.

Week ending July 4	1913.	1912.
Passengers, etc.	£8,759	£7,105
Goods, etc.	£127,352	£127,352
Total for week	£136,111	£134,457
Aggregate for 27 weeks	£3,581,416	£3,581,416
Miles open	£127,352	£127,352

## North British.

Week ending July 5	1913.	1912.
Passengers, etc.	£37,800	£34,000
Goods, etc.	£5,900	£5,900
Total for week	£43,700	£40,000
Aggregate for 27 weeks	£1,161,000	£1,161,000
Miles open	2,272,700	2,272,700
Inc. 27 weeks	1,289 1/2	1,289 1/2

## North Eastern.

Week ending July 5	1913.	1912.
Passengers, etc.	£15,743	£14,518
Goods, etc.	£15,743	£14,518
Total for week	£31,486	£29,036
Aggregate for 27 weeks	£5,581,416	£4,634,091
Miles open	£5,581,416	£4,634,091

## North London.

Week ending July 5	1913.	1912.
Passengers, etc.	£5,537	£3,705
Goods, etc.	£5,537	£3,705
Total for week	£11,074	£7,410
Aggregate for 27 weeks	£152,800	£152,800
Miles open	£152,800	£152,800

## North Staffordshire.

Week ending July 5	1913.	1912.
Passengers, etc.	£5,400	£5,600
Goods, etc.	£5,400	£5,600
Total for week	£10,800	£11,200
Aggregate for 27 weeks	£143,400	£143,400
Miles open	£143,400	£143,400

## Rhymney.

Week ending July 5	1913.	1912.
Passengers, etc.	£278	£278
Goods, etc.	£278	£278
Total for week	£556	£556
Aggregate for 27 weeks	£15,000	£15,000
Miles open	£15,000	£15,000

## South Eastern and Chatham.

Week ending July 5	1913.	1912.
Passengers, etc.	£15,000	£15,000
Goods, etc.	£15,000	£15,000
Total for week	£30,000	£30,000
Aggregate for 27 weeks	£415,000	£415,000
Miles open	£415,000	£415,000

## Taff Vale.

Week ending July 5	1913.	1912.
Passengers, etc.	£47,100	£47,100
Goods, etc.	£47,100	£47,100
Total for week	£94,200	£94,200
Aggregate for 27 weeks	£2,436,400	£2,436,400
Miles open	£2,436,400	£2,436,400









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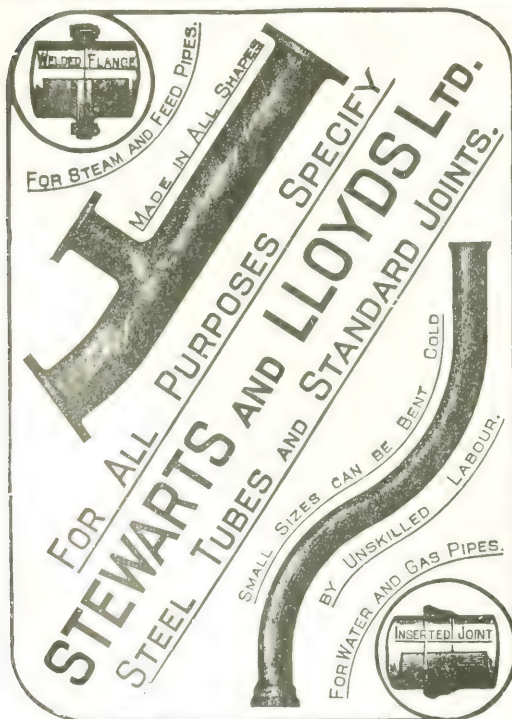
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# The Railway Times

A Journal of Finance, Construction, and Operation.

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## PRINCIPAL CONTENTS

RAILWAY NOTES.

## STATE FINANCING OF INDIAN RAILWAYS.

The railways in India have suffered from the policy of the State at home and in the country itself. That policy has been one of constant change, whereas had it been based on some definite principle, the necessary development would have proceeded on settled lines; instead of this the sporadic introduction of various gauges, the starting and sudden stoppage of construction on many railways, and the never-ending changes in what should have been fundamental principles have resulted in a condition of things approaching chaos. Commissions and committees without number have been appointed from time to time to study the subject, but their recommendations have only been adopted in a half-hearted way. The minimum mileage required for developing the country was fixed at 60,000 miles, while 100,000 miles were considered none too many to meet the needs of the 300 million inhabitants.

More than half the mileage urgently required has been opened for traffic, and even the open lines have been starved for want of transport facilities in the shape of adequate rolling stock, sufficient passing places, and room at stations and terminals. So-called State requirements were always met at the expense of the railways, the Budget allotments for them being diverted to frontier expeditions, irrigation works, or protection from famine - all necessities in their way, but all of which would have been assisted by the laying down of lines of communication. The carrying out of these would have continued uninterruptedly had adequate provision been made for them, either by the State itself or by the encouragement of private enterprise. Ever since the time of John Company private enterprise has been looked upon with suspicion, and the promoter, or "interloper," as he was called, has been treated very much as the Boer Government treated Uitlanders. This feeling is not yet extinct, either in South Africa or in India. In the last few years the Secretary of State for India, working more or less in agreement with the Indian Government, has diverted enormous funds for State purposes to the detriment of the railways; money has been squandered which could have been spent to enormous advantage in their development on economic principles. The cost of the Imperial Durbar was a case in point whereby the commercial traffic was discontinued; following this has been the choice of the most extensive site possible for the new capital at Delhi with consequent expenditure which would have been avoided had the scheme

been carried out by one who had the fatal disadvantage of not being a Government official. This has involved the erection of a new

city, and these show that, in the first place, the matter

could have been handled by a well-informed official

and carried all the traffic possible for fifty years to come. The

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waterway at the bridge has been enormously curtailed, involving stupendous training works which will have to be maintained at a cost that cannot be foreseen; moreover, this contraction of the channel is likely to cause dangerous changes at a place where the river has kept to its present banks from time immemorial. The estimated cost of the structure, even now, has risen from £1,400,000 to £3,300,000, whereas for this sum nearly 800 miles of railway might have been constructed, or more than the average length of mileage of new construction that has been sanctioned of late years. Questions have been asked in Parliament as to the reasons for this expenditure, as reported in our issue of 26th ult.; the replies were anything but satisfactory, for whereas it was stated that no useful comparisons could be made with any similar bridges, our notes show that, making all allowances for the differing conditions, the Lower Ganges bridge at Sara will cost at least 130 per cent. more than similar structures over rivers in Bengal.

### RAILWAY DIVIDENDS AND ACCOUNTS.

Various of the minor railway dividends have been declared this week, and, as anticipated, they are unaccompanied by any details as to transfers to reserve, balances carried forward, etc. They are, in fact, strictly interim dividends, and afford only a somewhat remote index to the actual results of the companies to which they relate for the past six months. Next week, various announcements will be made by leading companies, beginning on Monday with the Lancashire and Yorkshire Railway. It may be stated at once that if the interim dividends as a whole correspond to the minor announcements already made this week, there will be nothing to complain of, although we still maintain that in the interests of the shareholders and of the railways themselves a brief summary of gross receipts, working expenses and net revenue should be supplied for the period ended June 30. The District Railway has again given tangible evidence of its progress, the rate of dividend on its 5 per cent. second preference stock being raised from 2 to 2½ per cent. per annum. This increase is all the more acceptable because it will be remembered a year ago the payment of 2 per cent. for the first half of the year compared against nothing at all in 1911. The other members of the electric group have maintained their dividends with the exception of the Great and South London, which is paying only ½ per cent. per annum against 1½ per cent. but as this company has now been merged with the Underground Electric Railway, and is undergoing complete re-organisation, its dividend declaration is of no public significance. The London Electric Railway maintained their dividend at 1 per cent. per annum on the ordinary stock, and the Central London distribution maintained at ½ per cent. per annum, although the latter case those holders who have deposited their stock with the Underground Electric Railway will receive the guaranteed dividend of 1 per cent. The Great Northern and Ireland Railway is paying 1 per cent. per annum by way of interim dividend, and the Great Eastern for the first half of 1913. Another dividend is being paid by the Port of London and Dock Railway, which is to be 6 per cent. per annum on the ordinary stock, and 8 per cent. per annum on the preferred stock.

We are informed that on May 14 last the resolution submitted by the North British Company to the Court of Session in Edinburgh in regard to the position of its preferred and deferred ordinary stockholders. The main point for decision was whether the new Accounts Act would override the provision of the North British Company's Articles which provided that the preferred ordinary dividend was to be distributed out of profits of each separate half-year, all the surplus belonging to the deferred stockholders. As we pointed out in the article

referred to, a decision by the Court that the half-yearly accounts are not to be prepared as heretofore would inflict an injustice upon the holders of the deferred stock which was certainly not contemplated when the new Accounts Act was passed. Fortunately for the interests of the holders of North British deferred, and indirectly the deferred stockholders of the Caledonian and Glasgow and South Western Companies as well, the Court of Session decided a few days ago that the North British deferred ordinary stockholders are entitled to insist that the preferred ordinary stock should only receive its dividend out of the profits of each separate half-year, and that no deficiency should be made good out of subsequent profits or other funds of the Company. In rendering judgment the Court pointed out that although an annual system of accounts was introduced, it would be possible for an accountant to ascertain the profits of each half-year. Of course this can be done—it has always been done in the past and without any excessive expenditure of time or money it can be ascertained in the future, and if railway companies in general had sufficient regard for the interests of their shareholders, they would certainly supply this information, although they are not compelled to do so by the Railway Accounts Act of 1911. Not only does the decision of the Court of Session protect the interests of North British deferred ordinary stockholders, but it strengthens the position of the holders of the corresponding stocks of the Glasgow and South Western and Caledonian Companies. Indeed, we may go further and say that it gives a strong backing to the demand which we have put forward on behalf of railway shareholders generally, that interim statements of gross receipts, working expenditure, and net profits should be supplied with the interim dividends, or as soon thereafter as circumstances permit. We have on various occasions pointed out this reasonable requirement of shareholders, and are glad to note that the ruling of the Court of Session supports this claim.

### THE CHANNEL TUNNEL.

The New Zealander has arrived, not to view the ruins of London Bridge, but to advance the movement for the construction of a tunnel beneath the English Channel. He sits in the House of Commons in the person of Mr. Arthur Fell, the member for Great Yarmouth, and is acting as honorary secretary to the latest effort to enlist the support of members of Parliament to the linking up of the railways of England and France. A document containing the signatures of the members is to be presented to the Prime Minister, who will be asked to receive a deputation. The present generation would be amused if it could be induced to peruse all that has been written during the past fifty years against joining up the South Eastern and Chatham Railway to the Northern of France Railway. On this side we have a reminder of the controversy in the form of the Channel Tunnel Company, presided over by a distinguished French Baron, whose name is prominent amongst those who have laboured to bring about the cordial relations now existing between the two countries. It is not pleasing to recall that the cessation of the works at Dover was brought about by the opposition which suddenly arose in 1883 on the ground that the narrow road under the Channel would involve risk of invasion. The consequence was that when Parliament was asked for power to undertake the work the Bills of the Channel Tunnel Company and the Submarine Railway Company were not supported by the Government, and were withdrawn without having been discussed. Present-day prospects are decidedly promising for the understanding between the two Governments has stood the test of years and the intricacies of European diplomacy. Advocates of the tunnel would not be going too far if they put forward the argument



that the friendship of France and the existence of the tunnel would prove our safeguard in the matter of food supplies. This contention should appeal to the alarmists who are never tired of attributing hostile intentions to another Continental Power, just as the same people endeavoured to embitter the relations of France and Great Britain at the time of the Fashoda incident. One agency which is likely to promote the building of the tunnel is the Franco-British Travel Union, which holds its first congress in London in September next, when one of the subjects suggested for discussion is the tunnel project. A useful article on the proposal appeared in the first number of "France," the official organ of the Union, published in January last, from the pen of M. Sartiaux, the general manager of the Northern of France Railway. In a preface the Union expresses the hope that the English Government and people will see their way to grant the necessary concession and approve of a scheme which will make for better understanding, not only between the forty-five million inhabitants of Great Britain and the forty millions of France, but also with the whole population of Central and Western Europe—some hundred and fifty-nine millions—for as the railways have made for peace in the past the tunnel would make for peace in the future. On the other side of the Straits of Dover the French Tunnel Company has spent more than two million francs on preparatory works, which are preserved in a satisfactory state, so that at any time definite working could be undertaken immediately if the difficulties and opposition that arose on the English side in such an unexpected manner were removed. On our side the South Eastern Railway Company, in 1881, obtained an Act which gave it power to purchase the works carried out by the Channel Tunnel Company at St. Margaret's Cliff. Other works were undertaken at Abbott's Cliff, between Dover and Folkestone, the results of which were not less favourable than those executed by France. In 1882 the rights of the South Eastern Company were acquired by the Submarine Railway Company, which continued the operations until a heading from the foot of Shakespeare's Cliff had been driven nearly a mile under the sea. It is to be hoped that before long Parliament will authorise this beneficial project to be proceeded with and completed.

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways for the week ended July 13 gives a total of £2,485,753, which was earned on 21,948 miles, being at the rate of £113 5s. 1d. per mile of line open. For the corresponding week of 1912 the receipts of the same lines amounted to £2,407,254, with 21,890 miles open, or £114 1s. 7d. per mile. Thus there was a decrease of £11,501 in the receipts, an increase of 58 in the mileage, and a decrease of 16s. 6d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show a decrease of £456 (or 3s. 5d. per mile) in the passenger receipts and a decrease of £14,148 (or 16s. 2d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the twenty-eight weeks in the passenger receipts has been £1,818,917, while the aggregate increase in the goods traffic was £4,091,672. The aggregate receipts of the fifty railways for twenty-eight weeks (December 29 to July 13) amounted to £62,137,432, in comparison with £56,036,791 last year, an increase of £6,100,641, not including receipts from certain canals, etc.

**Invergarry and Fort Augustus Railway.**—Financial arrangements

## MONEY AND STOCK MARKETS.

### SETTLEMENT DAYS.

Confirmation Days	Ticket Days	Pay Days
Mines ..... July 25	11	July 30
General ..... " 12	General ..... " 13	
General ..... " 13	General ..... " 14	
General ..... " 14	General ..... " 15	

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Same Week Last Year.
Bank's Coin and Bullion	£38,229,265	£38,229,265	£38,229,265
Total Reserve	£41,111,111	£41,111,111	£41,111,111
Proportion of Reserve to Liabilities	41 p.c.	41 p.c.	50.68 p.c.
Notes in Circulation	£41,111,111	£41,111,111	£41,111,111
Bank Rate	4½ p.c.	4½ p.c.	4½ p.c.
Open Market Discount	3½ p.c.	3½ p.c.	3½ p.c.
Bankers' Clearing House	£1,111,111	£1,111,111	£1,111,111
Silver bars, per oz. (spot)	2 1/2	2 1/2	2 1/2
Consols (account)	83½	83½	83½
French 3 per cent. (acc.)	83½	83½	83½
Paris Cheque exchange	241 1/2	241 1/2	241 1/2
New York, 60 days bill	84 1/2	84 1/2	84 1/2
Rio de Janeiro exchange	16½	16½	16½
Valparaiso 90-day exch	18 1/2	18 1/2	18 1/2
Calcutta transfers	18 1/2	18 1/2	18 1/2
Hong Kong transfers	18 1/2	18 1/2	18 1/2
Shanghai transfers	18 1/2	18 1/2	18 1/2

per cent.	July 16, 1913	July 16, 1912	July 16, 1911
4½	Jan. 16, 1908 4½	Dec. 8, 1904 4	Jan. 1, 1911 4
4	Mar. 5, 1908 3½	Jan. 14, 1910 3½	Mar. 1, 1911 3½
3½	Mar. 15, 1908 3	Feb. 10, 1910 3	Mar. 1, 1911 3
3	Mar. 28, 1909 4	Mar. 17, 1911 3½	Mar. 1, 1911 3½
2½	June 14, 1909 3½	June 1, 1910 3	June 9, 1912 3
2	Apr. 14, 1909 5	June 8, 1910 3	June 9, 1912 3
1½	Oct. 7, 1910 4	Sept. 1, 1910 4	Oct. 17, 1911 4
4	Oct. 14, 1909 5	Oct. 1, 1910 4½	Apr. 15, 1913 4

It will be seen from the Bank Returns this week that £884,000 was received from abroad in coin and bullion, while only £130,000 was exported, at the same time money began to come in rather more freely from the provinces—£230,000 in notes and about £84,000 in coin. Thus the Reserve benefited to the extent of £1,068,000. Government Deposits are £334,000 down and Other Deposits are £358,000 less, while the maturing of bills and repayments to the Bank of various kinds have resulted in the reduction of Other Securities by £1,731,000. As the consequence of these changes the ratio of Reserve to the liabilities of the Bank has risen nearly three points to over 53½ per cent. This figure is highly satisfactory. Indeed the position of the Bank for some time has been such as would fully justify a reduction of the Bank Rate were it not for the abnormal condition of affairs abroad. The maintenance of the Rate at 4½ per cent. in the middle of July, while it has conduced to the satisfactory position referred to, is at the same time a warning of the most unmistakable kind of dangers on the financial horizon. A further general contraction of trade and credit is deemed by many to be inevitable, because the events of the past twelve months have shown that there are adventurers abroad, both of the political and commercial kind, that nothing short of drastic measures will induce to abandon or moderate their ventures. Some who admit a necessary contraction in trade and credit deny that it is likely to be so abrupt as to amount to a crisis. They point to the wisdom with which the policy of the Bank has been conducted, and as likely to

the storm, if and when it comes, will pass lightly over here. This is a comfortable opinion, and is likely to



## THE LOWER GANGES BRIDGE AT SARA GHAT.

The cost of the bridge is the subject of a long and interesting discussion in the *Times* of the 17th inst. The bridge is being built. The trans-Ganges traffic at Sara is now served by a steam ferry, which is a not disagreeable break in the journey from Calcutta to the hill station at Darjeeling or Shillong. Transshipment of goods between broad and narrow gauge has to be done somewhere; at present it is included in the ferry service, but might have been improved at a comparatively small cost by the establishment of a wagon ferry as has been done elsewhere on the same river. Moreover, the average speed of goods on Indian railways does not exceed three miles an hour, so that the extra time beyond that required for transshipment, say six hours, is immaterial.

However, the bridge is now well advanced, and the last estimate amounts to no less than £3,300,000, to which should be added interest on capital unproductive during construction, bringing the total cost up to £3,600,000. At 4 per cent. per annum the interest on £3,600,000 is £144,000. Deducting the present cost of working the ferry, £44,000 (which also includes transshipment between the broad and narrow gauge), leaves £100,000 as the annual burthen on trade, i.e., on the "rvot" for ever; it is a "perpetual settlement." This allows nothing for upkeep of the bridge, which, with repairs to its artificial channel, must be heavy. At 2s. a ton, 1,000,000 tons must, therefore, cross the bridge to make it pay interest only. At present about 1,000,000 tons of jute is handled by the Eastern Bengal State Railway annually; a considerable quantity is also water borne. This is said to be all the jute that can be produced, and there is no other commodity that runs into hundreds of thousands of tons.

Even if the heavy cost of forming an artificial gorge at a site where the river has flowed unaltered in its present wide channel for at least 200 years was warranted, a double line bridge was certainly unnecessary, and there does not appear any valid reason why a single line bridge at Sara Ghat should have cost more than £1,400,000, including interest during construction.

Last month Mr. R. A. Cooper, the member for Walsall, asked the Under Secretary of State for India several questions in which allusion was made to the facts above mentioned; the answers given by Mr. Montagu were anything but convincing. As regards the question whether the estimate for the Sara Bridge compared favourably or otherwise with the cost of the bridge over the same river at Benares, Mr. Montagu replied that no comparison of any value could be made between the Sara Bridge and the Benares Bridge, or any other bridge in India. It does not seem at all likely that Mr. Cooper would have suggested this comparison unless it rested on good grounds. That these existed the following statement will prove to the hilt:—

The Benares Bridge has 7 spans of 360ft. = 2,520ft., and 9 land spans of 111ft. = 1,026ft. The total cost of the bridge was Rs.56,65,618. The total length of land spans is 1,026ft., and the cost of this length may be estimated at Rs.700 per ft., the foundations being of an average depth of 70ft; this amounts to Rs.7,18,200. Now, Rs.56,65,618 minus 7,18,200 = Rs.49,47,415 = cost of 7 spans of 360ft. with two abutments. This works out to about Rs.2,000 per ft. run (a). If we work out the "elevation area," i.e., the area included by a line drawn through the base of the piers and another along top of girders—this is 517,450 sq. ft., as, although the deepest piers are 140ft. below L.W., the average depth is only 102ft., and the total average height is 21ft.; so the cost per sq. ft. is Rs.9.55 (b). The weight of main girders, and cross-girders and floor in 7 spans is 5,222 tons, and cost Rs.396 per ton in place = Rs.20,679.10, which is

The Sara Ghat Bridge has 15 spans of 350ft., giving a length of about 5,250ft. The depth of all piers and abutments is assumed to be 100ft. below L.W. The height from L.W. to underside of girders is 71ft., and extreme height of girder in centre is 49ft. Total height is therefore 280ft.

Sara Bridge is for a double line, but the piers are practically of same size as those at Benares. Taking cost per lineal foot: The foundations are on the average 60 per cent. deeper; the piers are about the same in height and size; the girders are 59 per cent. heavier. We may therefore estimate the cost

The "elevation area" is 5,280 x 280 = 1,478,400 square feet, which is just three times that at Benares, of which the cost was Rs.9.55 per sq. ft. Now allow an increase of 50 per cent. for heavier girders and rise in prices, the estimate amounts to Rs.224,82,400 (b).

The weight of girders and flooring is 18,480 tons. Taking the cost in place to be Rs.500 per ton, which is an increase of 25 per cent. on Benares rate, the total cost of girders is Rs.92,40,000, and if this sum is 40 per cent. of the total works out to Rs.231,00,000 (c).

In different ways then we obtain three different estimates, and the mean of these is Rs.222,31,000 (£1,482,267), which should be ample for the Sara Ghat Bridge, judging from the previous experience at Benares with similar spans and similar piers and allowing for deeper foundations, heavier girders for a double line, and increase of prices. In fact, the original estimate amounted to £1,400,000 (c). The present estimate has now reached, approximately, 495 lakhs (£3,300,000), and although this probably includes the training works necessary to confine the river to its restricted waterway, it does not account altogether for the enormous increase over the original figures.

Neither at the Benares Bridge nor at any of the large bridges over the rivers of lower Bengal—the Gorai, Koomar, Echa-muttee, Hooghly, Rupnarain, or Damoodah—has an artificial channel been found to be necessary; it has been sufficient to rely on defensive works when required to control the course of the river, and experience has shown that the cost of such defensive works is comparatively insignificant. Ignoring the teaching of experience, enormous outlay has been incurred in constructing a wholly unnecessary artificial channel at Sara, where Major Kennell's map proves that the Ganges has not altered its channel at that crossing in the last 150 years, and for an unknown period before.

This instance of spending 130 per cent. too much on a work that would have better been left undone, occurs at a time when the Government of India, unable to provide capital for railway extensions or for the proper equipment of existing railways, is offering 3½ per cent. guarantee to try to induce people to sink money in building railways, when they can get 4½ to 5 per cent. in the open markets with perfect safety.

The reckless manner in which the cost of this preposterous structure has proceeded unchecked is an instance of the fatal effects of divided responsibility in spending other people's money. In the days of the "John Company" there was no Railway Board nor Viceroy, and no Public Works Department, Lord Dalhousie was Governor-General and Railway Board rolled into one, and India owes its railway system to him. The "little man" was an aristocrat, but he made no such commercial blunder as the Lower Ganges Bridge.

An example of what might have been done with the wasted £3,000,000 is afforded by the Southern Punjab Railway, which in 1911 included a length of 700 miles of open line at a cost of £3,100,000. Allowing £500,000 for rolling stock the total capital would be £3,600,000. In the last two years since this length of railway was opened for traffic, the average net earnings of the company was £228,000, yielding satisfactory returns to the stockholders, with a handsome share of surplus profits to the State. In addition to the direct earnings, the North Western State Railway, in virtue of its running powers over the Southern Punjab Railway, has benefited to a very large extent, certainly not less than that of the company, probably much more, so that the total net return on the £3,600,000 spent on 700 miles of railway is not less than £150,000 per annum. While, therefore, the Government of India is driving hard bargains with its promoters, it is squandering millions in wasteful construction of monumental bridges.

Moreover, to reduce the apparent cost of the new capital, Government is imposing on the Railway Department an (estimated) amount of about 21,000,000 for a magnificent railway station at the New Delhi which, together with the expensive station staff for working the same, will have been entirely saved had the northern site been chosen. This is only one of the items that go to make up the enormous cost of the new Capital, to rise for 1814 which railway progress is of necessity being starved.



## AN IMPROVED METHOD OF HANDLING GOODS.

### DEMONSTRATION OF ELECTRO-MECHANICAL SORTING MACHINERY.

Whatever opinions may be entertained with regard to the practicability of applying to the whole of the London area Mr. A. W. Gattie's scheme for the establishment of a goods clearing house at Clerkenwell, the electro-mechanical sorting machinery, which would form the basis of the arrangements at such a centre, constitutes an invention of the greatest utility. Its greatest recommendation is that it affords scope for effecting immediate and valuable improvements—notably a saving of time and expense—in the handling of goods at any depot where there is sufficient accommodation to permit of its installation. Certainly no new goods warehouse ought to be erected without provision being made for its adoption, at least over such of the tracks which run through the goods shed itself. While the electro-mechanical conveyer devised for the purpose of Mr. Gattie's project is a new invention, the principle of moving belts which comes into the scheme is, of course, far from novel, and is perhaps to be found working in its simplest form at the Port of London.

Railway officers who have recently accepted invitations to view demonstrations of the electro-mechanical goods sorting machinery installed at the works of the New Transport Co., Ltd., at Ingate Place, Queen's Road, Battersea, have expressed approval of that department of the company's activity, and the same verdict was freely accorded by a numerous assembly of visitors who attended there on Wednesday last. If this appliance is to be taken as the measure of Mr. Gattie's activity since the reading of his papers at Leicester in October last, and at the London School of Economics in March last, the interval has been spent very profitably with the assistance of his coadjutors, Messrs. Louis Rottenburg, H. A. Cox, G. E. Lloyd, and J. Culverwell.

Prior to the machinery demonstrating the latest use to which electricity can be applied, Mr. Rottenburg gave a dissertation on the general nature of the problem of terminal handling of goods traffic which the machinery is intended to solve. The goods traffic of London was taken as an example, but the New Transport Company's system, as already indicated, applies to the handling of goods in all large cities as well as in docks, large departmental stores, parcels post offices, etc. In London, he said, there were eleven railway companies, owning 74 goods stations, and receiving about

the various railway wagons into other London stations or shunting yards. At each of these stations each bale of goods in a railway wagon was then "sorted" into the various delivery vans by porters with hand-trucks. By substituting one central goods clearing house—as designed by the New Transport Co., Ltd., for the 74 goods stations, the company contends that the 700 daily inter-goods-station trains could

be redeemed. The value of this land, together with the proceeds of the sale of this land alone would be sufficient to cover the cost of the clearing house, and the night long. The proceeds of the sale of this land alone would be sufficient to cover the cost of the clearing house, and the night long.

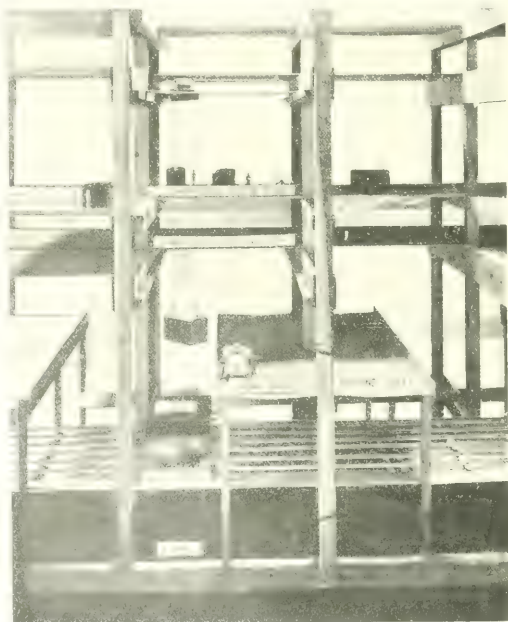
which rendered this extraordinary concentration possible and unloading and re-loading of wagons is performed rapidly by cranes lifting whole wagon-loads at one hoist, obviating the service is one organisation, and is frequent and regular.

The 240 long trains would be distributed over the 24 berths each train, on an average, nearly 2½ hours for unloading and loading again. With the apparatus and organisation of the clearing house, any train could be unloaded and loaded again

that there was no congestion to be feared, either in the clearing house itself, or in the approaches to it, even if the goods traffic of London should increase very largely.

### FEATURES OF THE PROPOSED CLEARING HOUSE.

There was on view a model of a portion of the proposed goods clearing house, which is bounded by the thoroughfares St. John's Street and Goswell Road, after considerable clearances and widenings have been effected. The model showed the following striking features:—Below street level run 24 railway berths, parallel to each other, from end to end of the clearing house, each long enough to accommodate a 70-wagon goods train, and connected with the railways serving London. Over these, on the street level, 12 road bridges cross at intervals from side to side of the clearing house. A road vehicle can thus be brought over any desired rail vehicle and a load can be transferred from the one to the other by an electric overhead crane. Below the rail level is a "crypt" in which whole wagon-loads are sorted, and, if necessary, temporarily stored until a train is ready to receive them. Above the road bridge level are four sorting floors, and above these an eighth floor with offices and repair shops. Of the sorting floors, two are for bales up to 10 or 12 cwt., and two are for parcels up to about 15lbs. In order to save time in



Model of Part of Proposed Clearing House.

transferring goods from one vehicle to another without one lift by a crane, by using a "container." Such a container may be anything to suit the nature of the goods—a chain or rope sling, a skip, a crate, or a complete box container with doors at the sides and ends; it is in effect a removable body which can travel equally well by road or rail. Goods are transferred by crane direct from vehicle to vehicle in one lift.

Sorting is accomplished automatically by means of a control system, resembling the keyboard of a typewriter, with thirty keys. Containers with unsorted loads are lifted by crane to a sorting floor, where their contents are sorted for destinations by automatic machinery.

Each sorting floor is divided into compartments called "bays," at each of which goods for a particular town, etc., are delivered by the sorting machinery, consisting of endless trains of machines called truckers; these move continuously

at three miles per hour, and trays bearing goods are automatically slid without concussion on to them at despatching stations, and off them at receiving stations.

The progress of a bale is as follows: Lifted in a container from road or rail, it is taken out by a labourer and placed upon a tray; an operator reads the address, presses two or three electric buttons and closes one switch. All the following operations are then purely automatic; the first empty trucker that passes takes the tray and notes at which receiving station it is to discharge it. This station may be on the same train or belt, or it may be on a different belt and on a different floor; but even in this case the transmission is automatic throughout. On each floor there are six belts passing bays; trays are taken from one belt to another by a main belt embracing the six, and moving at six miles per hour, and from floor by lift belts. A tray may therefore pass from a lower

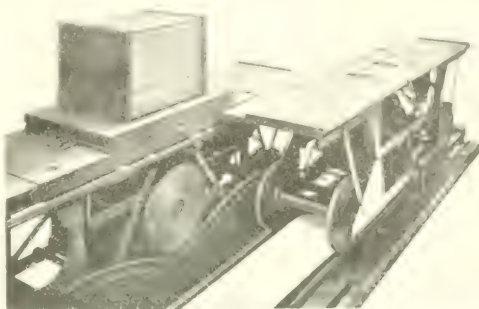
this to a lift belt, from this to the upper fast belt, and from this to the slow belt which passes the required receiving station. Through all these transfers the address is transmitted from trucker to trucker, and the tray is transferred without shock. The bales and parcels assembled in this way at a receiving station are packed in a container, which is lowered by crane on to a road or rail wagon leaving for the corresponding destination.

For the purposes of the demonstration, two parallel trucker lines were fitted up at the Battersea Works, the floor space not being broad enough to permit of the oblong tracks with curved corners, which would be necessary in practice. A glass of water and a chair constituted the load on the truckers for the majority of the journeys, but for several high-speed trips a lady occupied the seat. So smooth was the transfer of the tray from one trucker to the other that no water was spilt. The transfer is effected by means of two rollers, which have a driving power of between 200lbs. and 240lbs. each. Only a very small portion of the rollers is visible, and comes into contact with the tray, the passage of which is facilitated by some half-dozen casters.

A number of questions were answered at the close by Messrs. Gattie and Rottenburg. The chief point related to

gate. This would give rather more than one car per minute adequate to any possible traffic. The London goods clearing

selected site, would be in communication with all the railways coming to London, but the connections would be far more extensive. Ten tubes had been planned, each with an internal diameter of 16½ ft., carrying one line of rails, and having on the average a length of one mile. Three of these lines would



Depositing Transfer of Load while in Motion.

go eastward, three southward, and four north and north-west, linking up the clearing house with all the railways coming to London.

In reply to other questions, it was urged that the scheme for frequent collection of goods from shops and warehouses would vastly reduce the congestion now witnessed in street traffic, much of which is due to the detention of vans for long periods outside of business premises.

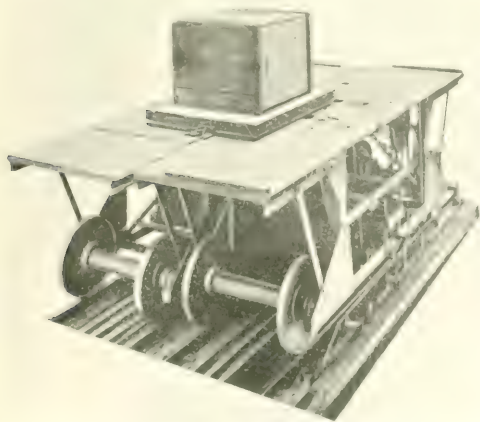
Another point put forward was the need for installing cranes at goods stations in order to unload the containers for the wagons, and it was urged that the outlay would prove a profitable one.

#### DERWENT VALLEY RAILWAY OPENING.

To-day (Saturday) the formal opening of the whole of the Derwent Valley Light Railway is to take place, when Lord Deramore and the directors will escort a party over the railway in a special train, afterwards entertaining them to luncheon at York. A portion of the undertaking, from Cliffe Common to Wheldrake, has been opened to traffic for some time, and the receipts afford hope for expecting that the completed railway will prove remunerative. It commences at Cliffe Common, on the Selby and Market Weighton line, where there is a junction with the North Eastern Railway, and it runs up the Vale of Derwent, on the west bank of the river, with stations at Skipwith, Thorganby, Wheldrake, Ilkington, Murton, and Osballdwike, and terminates at York, where a large and well-equipped station has been erected in Hallfield Road. Messrs. Bethune, Dick and Co., of Westminster, are the contractors, and the estimated cost of the line is 75,000 per mile.

The Provisional Order was obtained in 1902 by the Rural District Councils of Easingwold and Riccall, but as they did not favour exercising the financial powers vested in them, which involved a sum of £200,000, several years' delay ensued. In 1907 the Council's powers were transferred to a company, with the late Lord Wenlock as chairman. The Easingwold and Riccall Councils retained a financial interest in the railway.

and Riccall 2000. The company have taken out sinking fund, and any advances made from the rates would be repaid in a period of time, to wit, 40 years.



Transfer of Load Half Completed.

the fear of congestion in the streets approaching the proposed clearing house. Mr. Gattie's reply was to the effect that the clearing house is to be surrounded by a yard 110 ft. in width, which is entered by 60 gates. As the entire road goods traffic of London could be carried on, under clearing house conditions, by 5,000 motor wagons, and probably by fewer, as estimated by Mr. Edgar Harper, each of which wagons would make on an average seven trips a day, there would be at most 35,000 entrances and the same number of exits by the 60 gates, or 70,000 passages through gates, say, in a working day of sixteen hours, or nearly 73 passages an hour by each

### ACCIDENT TO THE NORFOLK COAST EXPRESS.

The presence of a light engine on the up main line outside of Colchester Station on the Great Eastern Railway was the cause of a serious accident on Saturday afternoon to the Norfolk Coast Express, which had left Cromer at 1 p.m., and was due to complete its run of 138 miles in 2 hrs. 55 m. to Liverpool Street at 3.55 p.m. The accident recalls the Hawes Junction disaster on Christmas Eve, 1911, when two light engines were standing on the main line, and despite the efforts of the drivers to get away they were caught by the express going north to Carlisle.

The light engine at Colchester had been engaged shunting and should have been placed in a siding out of the way of the express, but for some reason this was not done. The driver, John Fisher, while the engine was taking water from the tank on the London end of the station, remembered that the express must be due, and he sent the fireman, Thomas Manning, to the signal-box for instructions to move to the sidings. Before Manning could reach the box the whistle

wreckage. Help for the injured was speedily forthcoming from the Great Eastern Ambulance Corps and a number of doctors, the noise of the collision having aroused the town. The driver, the fireman and guard of the express were killed. There were fortunately no passengers in the luncheon car. Injuries were sustained by about a dozen passengers in the first-class coach which followed the luncheon car.

A remarkable escape was experienced by Mr. Philip Lang, of Woodford. He was on the engine in his capacity of locomotive inspector, and when he saw that a collision could not be averted, he sprang off, and escaped with concussion and cuts on his head and knees. The driver of the light engine was flung into the tender, but was not seriously hurt. The passengers were taken on to Liverpool Street by other trains, arriving early in the evening, but the outward trains to coast towns were seriously delayed, being held up on the road, and the passengers having to procure food from the villages after the stock of refreshments had given out. Major von Donop, of the Board of Trade, inspected the wreckage on Sunday morning.



Accident to the Norfolk Coast Express.

of the engine, which was then under the control of the driver, was the cause of the accident. The express, which was travelling at a speed of about 40 miles an hour, was struck by the light engine, which was standing on the main line. The collision was so severe that the driver, the fireman, and the guard of the express were killed. The passengers were taken on to Liverpool Street by other trains, arriving early in the evening, but the outward trains to coast towns were seriously delayed, being held up on the road, and the passengers having to procure food from the villages after the stock of refreshments had given out. Major von Donop, of the Board of Trade, inspected the wreckage on Sunday morning.

The coroner's inquiry into the deaths of the three railwaymen was opened on Monday and adjourned for a week, as the driver of the light engine and the locomotive inspector were continued to be.

On behalf of the directors of the Great Eastern Railway, Mr. T. Chew, solicitor, expressed the deepest sympathy with the relatives and friends of those men who had come to such a sad end in a courageous devotion to their duty. They were all three old and tried servants, he said, and by their bravery in sticking to their posts the effect of the sad accident was lessened. The company also sympathised with those who had sustained injury, including Driver Fisher, on the light engine, who acted with such courage and presence of mind in attempting to minimise the effect of the collision.

The Board of Trade inquiry into the accident to the Cromer express was held on Tuesday at Colchester by Lord Colonel von Donop, who visited the scene of the disaster, examined witnesses, and proceeded to the hospital, where the evidence of Inspector Laing, the only survivor of the wrecked express engine was taken. The proceedings were private.



## MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

1913	Manda Railway	11.30 a.m.	at 41, Trinity Square, Tower Hill, E.C., at
1913	East Indian Railway	11.30 a.m.	at 41, Trinity Square, Tower Hill, E.C., at
1913	Egyptian Delta Light Railways	11.30 a.m.	at 41, Trinity Square, Tower Hill, E.C., at
1913	Whitechapel and Bow Railway	11.30 a.m.	at 41, Trinity Square, Tower Hill, E.C., at
1913	Demerara Railway	11.30 a.m.	at 41, Trinity Square, Tower Hill, E.C., at

THE RAILWAY TIMES, 12, Norfolk Street, London, W.C. (Telephone, 2948 Gerrard. Telegraphic address, Altimetry, London.)

## BUENOS AYRES GREAT SOUTHERN RAILWAY.

## INCREASE OF CAPITAL.

At a meeting of the Board of Directors of the Buenos Ayres Great Southern Railway, held on the 11th inst., the following resolution was passed:—  
To authorise the creation of an additional £3,000,000 of capital, divided into 500,000 shares of £10 each, of which it is proposed to issue 100,000 shares at once.

The necessity has arisen for calling you to this extraordinary general meeting, but I think the circular issued to you along with the notice convening the meeting will have made clear to you the reason. When we met you last at the annual general meeting in October we knew that we had capital in hand to carry

our representatives in Buenos Ayres that there was every reason to hope that the Bill for the amalgamation of this company with the Buenos Ayres Western Railway would be included in the list of matters to be dealt with by the Argentine Congress in the Extraordinary Sessions then sitting, as it actually was later on, we had cause to expect that it would have been sanctioned somewhere about the end of 1912, and in anticipation of this we deferred asking you for further capital powers until we could at the same time lay before you and ask your sanction to the amalgamation scheme, when we should know better the actual requirements of the combined company. The Bill was passed during the Extraordinary Sessions by the Senate, or Upper Chamber of the Argentine Congress, but for various reasons, which we are assured by our representatives had nothing whatever to do with the merits or demerits of our Bill, it was not treated by the Chamber of Deputies. The Special Sessions only expired at the end of March this year, and the ordinary ones for the current year began on May 6, and our Bill is again on the list of subjects to be dealt with by the Chamber of Deputies, but at the beginning of the session there is the Budget and other matters of national interest to be treated first before what may be called private Bills, such as ours, can be discussed. Therefore, it is not very surprising that so far it has not been dealt with, and this delay, though disappointing to us, must not be taken in any way to mean that our Bill is not going to be passed in due course, as we are assured on all hands that it has been favourably received by both the public and the Press, and there is no opposition to it worth speaking of. In the meantime it is impossible for us to lay before you our proposals, for so much depends upon the form in which the Bill is passed, if it is passed at all, but I may say that we are making every preparation in anticipation

other new important works, having for their object the expansion and development of the company's business. We are asking you to authorise the creation of an additional

the existing ordinary stock and extension shares of the company. We propose to offer this new capital to the ordinary and

this denomination, which are convertible into ordinary stock and rank for full dividend after payment of the dividend in October, 1914, and I may say that only the present abnormal position of the money market has induced your directors to make an issue on such exceptional terms, but we console ourselves with the thought that the offer is being made to our own shareholders, who are entitled to derive any benefit there is, and not to the outside public, and that the bulk of our proprietors appreciate this is evident from the fact that the board has received the largest number of proxies in the history of the company. I trust, therefore, that none of you will hesitate to take advantage of this most favourable opportunity of increasing your holding on such advantageous terms in a concern which has always responded most generously to any capital invested in it.

## STATEMENT OF THE RESULTS.

When I took this chair nearly three years ago I was accused by some of my friends of being too optimistic regarding the future of the Buenos Ayres Great Southern Railway, and I you two years ago on my return from a complete inspection of

surpassed by the actual results. I can only, of course, speak approximately, as we have not got the actual results from Buenos Ayres yet for the past financial year, but there can be no question that they are very good, and the increase in the net receipts will probably exceed half a million sterling, so that it will be seen that had we issued not only the £2,650,000 which we are asking for now, but the whole of the £5,000,000 a year ago, we could have paid interest on it without affecting the 7 per cent. dividend on the ordinary stock which we have paid for the past fourteen years. (Applause.) In the event of your authorising this issue the board propose to send out the allotment letters on the 21st of this month, the payment on allotment of £3 per share to be made on August 1, a call of £3 on October 1, and the final payment of £4 on January 1, with the option of paying in full at the date of allotment, such prepayments to carry full interest at the rate of 4 per cent. per annum. If this option to pay in full is not availed of, interest at the rate of 4 per cent. per annum will accrue from the date of the payments as made. You have just heard the resolutions read by the secretary, which I now move. I will ask Sir Henry Bell to second them, and before putting them to the vote, which is not quite clear.

as a very serious matter. (Hear, hear.) The new capital should not be issued unless there was absolute need for it. In his opinion, they were going a bit too far. (Hear, hear.)

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spent our capital account, and although, had the conditions of the financial market been normal, we might have managed to



## DIVIDEND ANNOUNCEMENTS.

**Dividend**—5¢ per share. A dividend of 5 per cent, on the common stock for the six months ended June 30.

**Interest**—Ordinary Dividend. A dividend of 2 per cent for the half-year on ordinary shares.

NORFOLK AND WESTERN RAILWAY.—A quarterly dividend of 1 per cent. upon the adjustment preferred stock, payable

THE BELGRAVIA DAIRY CO., LTD.—A dividend of 3 per cent., making 6 per cent. for the year to May 31 last, free of income tax.

LONDON ELECTRIC RAILWAY.—At the rate of 1 per cent. per annum on ordinary shares for the half-year, the same as

MEXICAN SOUTHERN RAILWAY.—An interim dividend of  $2\frac{1}{2}$  per cent., as compared with  $2\frac{1}{4}$  per cent. a year ago, payable on August 1.

LONDON AND SUBURBAN TRACTION.—Full dividend on 5 per cent. cumulative preference shares for the half-year to be paid on August 15.

METROPOLITAN DISTRICT.—(On second preference stock at the rate of  $2\frac{1}{2}$  per cent. per annum for the half-year, as against 2 per cent. per annum a year ago.

MAINTENANCE FUND. £600. A DEDUCTION OF £100 ON THE preference stock, leaving £85,038 to be carried forward, in which is included £60,377 brought down.

PORT TALBOT RAILWAY AND DOCKS.—For the half-year on ordinary shares at the rate of £9 per cent. per annum. A year ago the dividend was at the rate of 8 per cent.

LANCASHIRE AND YORKSHIRE WAGON CO.—A final dividend of 10s. and a bonus of 4s. per share, making 20s. per share (10 per cent.), free of income-tax, for the twelve months, and carrying forward £2,268.

**COSTA RICA RAILWAY.**—A dividend of 2 per cent. on the capital stock for the year ended June 30, the balance—viz., £17,140 to be transferred to reserve, increasing it to £147,301. For the previous year a similar distribution was made.

UNDERGROUND ELECTRIC RAILWAYS OF LONDON.—The full half-yearly distribution at the rate of 6 per cent. per annum on income bonds, as compared with 4 per cent. per annum a year ago, payable on September 1.

per cent. per annum on the 5 per cent. preferred ordinary stock for the half-year ended June 30, 1913, together with an additional dividend at the rate of 1 per cent. per annum for the same period.

CITY AND SOUTH LONDON RAILWAY.—The directors of the City and South London Railway Company have declared an interim dividend for the past half-year on the consolidated ordinary stock at the rate of  $\frac{1}{2}$  per cent. per annum. The following are the dividends for the past ten years :—

	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984
1st Place		1	1	1	1	1	2	2	2	2
2nd Place			1	1	1	1	1	2	1	1
3rd Place			1	1	1	1	2	2	1	2

**CENTRAL LONDON RAILWAY.**—The directors of the Central London Railway Company have declared the following interim dividends for the first half of the year ending December 31, 1913: On the undivided ordinary stock at the rate of 3 per cent. per annum; on the preferred ordinary stock at the rate of 4 per cent. per annum. The warrants will be payable on and after August 12. The dividends for the past ten years are appended:—

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
1st House	3	3	3	3	4	3	3	4	4	4
2nd House	3	3	3	3	3	3	3	4	4	4
All Houses	6	6	6	6	7	6	6	8	8	8

THE GREAT NORTHERN RAILWAY COMPANY OF IRELAND.—At their meeting on July 16 the directors declared an interim dividend on the ordinary stock of the Company at the rate of £5 per cent. per annum, and at the rate of £4 per cent. per annum on the consolidated four per cent. preference stock of the company, for the half-year ended June 30, 1913. The dividends will be paid on September 1, 1913. The dividends paid during the last ten years are as follow:—

	1913	1917	1911	1910	1909	1908	1907	1906	1905	1904
1st Half	4	1	1	1	2	2	1	1	1	1
2nd Half	5	1	1	1	1	1	1	1	1	1
All Years	9	2	2	2	3	3	2	2	2	2

directors declared an interim dividend on the ordinary stock

The dividends for the past ten years are given below :

	1982	1983	1984	1985	1986	1987	1988	1989	1990
1st Half	26	27	28	29	30	31	32	33	34
2nd Half	35	36	37	38	39	40	41	42	43
April Year	44	45	46	47	48	49	50	51	52

## FORTHCOMING INTERIM DIVIDEND ANNOUNCEMENTS.

Following these the names of those companies which are expected to announce their dividends:—

## RAILWAY ELECTRIFICATION

LONDON, BRIGHTON AND SOUTH COAST.

R. W. Blackwell and Co., who carried out the electrification of the South London circle of the Brighton Railway Company and the subsequent extension to the Crystal Palace, have begun the extension of the electrification from Balham to Croydon, *via* Norbury and Thornton Heath. Later on, as already fully indicated in this journal, the electrified suburban system will be carried as far as Epsom.

**SYDNEY.**—The Minister of Works for New South Wales intimated recently that he would introduce amongst the first business to be dealt with by Parliament during the session opening in July a Bill to authorise the construction of underground railways in Sydney to relieve the street congestion now prevailing. The plans prepared by Mr. Hay, the English expert, have been accepted, with certain modifications suggested by the engineers of the Public Works and Railway Departments.





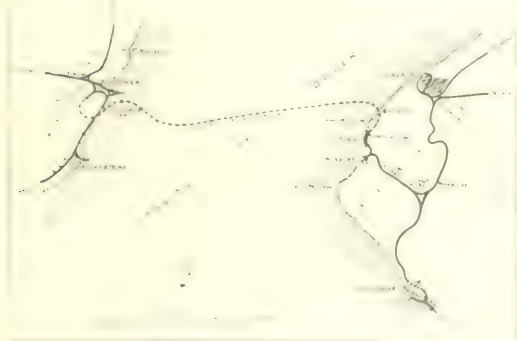
showing what the increases are on rates of various amounts. To alter all the figures immediately would probably be difficult, as the books have to be kept available for public inspection, but I will call the attention of the railway companies to the desirability of completing the alteration as soon as possible.

Mr. BARNSTON also asked the President of the Board of Trade, having regard to the fact that the whole trade of the country was affected by the increased rates on goods traffic put into operation by the railway companies on July 1, whether the Board of Trade would exercise the power conferred upon them by Section 6 of the Regulation of Railways Act, 1873, and thereunder appoint some person to apply to the Court of the Railway and Canal Commission to determine whether the notices given by the railway companies of their intention to increase their rates on goods traffic on July 1 were or were not valid.

Mr. BUNTON: If any trader or responsible association of traders or local authority is of opinion that there is a doubt of the validity of the notices to which the hon. Member refers, it is open to such person or body to take proceedings to obtain a legal decision in the matter.

### THE CHANNEL TUNNEL.

Reference is made elsewhere in this issue to the movement for a deputation of members of the House of Commons to present a memorial to the Prime Minister in favour of sanction being accorded to the Channel Tunnel scheme. Information is also given as to the present position of the project in England and France.



It is interesting to note that this week M. Barthou, the French Premier, interviewed by a representative of the *New York Herald* regarding the construction of a Channel tunnel, expressed the opinion that the settlement of the problem could not be long delayed. The objections raised in England, he said, were gradually disappearing, and would not prevail against the multiple advantages of more rapid communication.

### AN IRISH PARLIAMENT AND THE RAILWAYS.

one part of his speech with the history of the railway question in Ireland of 1836. No action, he said, could be taken in a congested Imperial Parliament, yet this question of railway transit lay at the very root of the whole question of industrial development and progress in Ireland. It would be foolish for him to commit himself to State railways, but he would say that the railway question was one that the Irish Parliament would instantly grapple with. In settling that problem there might be conflicts of interest between Belfast and Cork, but they would not be conflicts of Catholic and Protestant.

Internal Combustion Engine and Cars in Australia. Following

## GENERAL NEWS.

### RAILWAY CONSTRUCTION IN NEW SOUTH WALES.

was only in the beginning of its closer-settlement policy, notwithstanding that in the last two years 2,000,000 acres had been made available. The charge of extravagance in his public works policy was extravagance of which he was proud, and it would be continued while the Labor Party remained in office. The bulk of the money had been spent on the duplication of the trunk lines and the building of new branches and the absolutely necessary works for progress and development. Only £243,534 had been spent on State industrial enterprises, but a tremendous saving was being effected. The present Government had spent £13,800,000 on public works, as compared with £870,000 in a similar period by the Liberals, and not a farthing was unjustified. New legislation was being prepared to make the life of settlers easier, and provision was being made for liberal advances from the State Bank and the granting of more than a living area where no railway exists.

Advices from Sydney state that the Government has concluded a tentative contract with Grimths, Australia Limited, for the construction of £3,000,000 worth of railways. The principal undertakings which are embraced in the contract are a railway from Condobolin to Broken Hill, and the completion of the North Coast line. The contracting firm is an offshoot of the contracting and financial concern of Norton, Grimths and Co., Ltd., of London. The terms of the contract provide that the company shall furnish a staff of engineers, under whose supervision the work will be carried out by Australian labour. The contractors' remuneration will be 5 per cent. on the cost of the work. The company has undertaken to secure for the Government a loan of £3,000,000 at current market rates of interest and current charges for underwriting, etc. The contract is not binding on the Government.

### THE RAILWAY ACCOUNTS ACT AND THE PAYMENT OF DIVIDENDS.

An important judgment was given on Tuesday by the First Division of the Court of Session, Edinburgh, in a test case between the North British Railway Company and Mr. George Wingate, Glasgow, a holder of deferred ordinary stock of the company. Under the North British Railway Act, 1888, the rate of dividend on the preferred ordinary stock was fixed at not exceeding 3 per cent., payable half-yearly, and the Act contained a provision that if in any half-year there were not profits available for the payment of the full amount of preferential dividend or interest for that half-year, no part of the deficiency should be made good out of the profits of any subsequent half-year or out of any other funds of the company.

yearly accounts was superseded, and a system of annual accounts instituted; and the question in this case was whether the provisions of the North British Railway Act, 1888, had been superseded, and whether the company were entitled to fix the dividend upon the preferred ordinary and deferred ordinary shares respectively upon the whole year, thereby being enabled in the event of a deficiency in the first half-

or whether they were still under the obligation of paying

The Court decided that deferred ordinary stock was not available for the payment in full of the preferred dividend in any half-year, and that, if in any half-year there were not profits available for the payment in full of the preferred dividend in any half-year, no part of the deficiency should be made good out of the profits of any subsequent half-year or out of any other funds of the company.





conveying trains of coal and iron to the port of Newport from Tredegar, Sirhowy, and Ebbw Vale on one day and returning the next, but frequently breaking down on the return journey with iron ore.

The President occupied the chair at the annual dinner when Mr. G. R. Young, ex-Mayor of Darlington, proposed "The City and Trade of Cardiff." In response the Lord Mayor appealed for financial help to complete the buildings of the South Wales University College. The toast of "The local railways" was given by Mr. J. L. Hamilton (London), who observed that the prosperity of South Wales was due in a great measure to the local railways. The Conference seemed to have dropped into the birthplace of railways—a little bit of history which had rather upset some of their preconceived ideas. He congratulated the local railways on the prosperity of their undertakings. The hospitality of the local railway companies to their institution was a mark of esteem to their president.

Mr. C. A. Vickery, general manager of the Alexandra Docks and Railways, responded, in the absence of Colonel C. S. Dennis.

Principal Griffiths submitted "The Permanent Way Institution," and the President, in reply, said that the permanent way officials had a great responsibility. He could say, however, for the local railways, that they had got their roads in first-class order. Statistics of accidents proved conclusively that the safest place for travelling was in a railway train.

### GREAT EASTERN SUPERANNUATION FUND.

On the second reading of the Great Eastern Railway Bill in the House of Commons on June 13, a question in relation to the Great Eastern Railway Superannuation Fund was raised by two Labour members, who pressed for an alteration in the constitution of the committee of the fund in the interests of the members. In reply, Lord Claud Hamilton traversed these allegations, and stated: "I am perfectly prepared, either by open vote or by ballot vote, or in any way suggested by the honourable members, to ascertain the opinion of members of the superannuation fund, and if the majority be in favour of altering the representation the company will take the earliest opportunity to give effect to that wish. A ballot has accordingly been taken, with the following result: In favour of present committee, 2,847; in favour of altered committee, 805; spoilt papers, 15; total, 3,757. The number of voting papers issued was 4,595."

### BOOK NOTICES.

Five other volumes of the National Library have come to hand, namely:—"Industrial Germany," by Wm. Harbutt Dawson; "Eugenics," by Edgar Schuster; "Modern Views on Education," by Thistleton Mark, B.Sc.; "Socialism and Syndicalism," by Philip Snowden, M.P.; and "The Practical Side of Small Holdings," by James Long, Member of the Departmental Committee on Small Holdings. The latter volume should be placed in the hands of every small farmer and market gardener. Professor Long might have devoted more of his space to the question of co-operation amongst smallholders in localities where they are numerous enough to combine with advantage in the purchases of food, fuel, and the various articles required on the holdings. Reference might also have been made to its advantages in the matter of railway carriage. There is no mention of the failure of the Development Act, which was to have revolutionised agricultural life in the matter of transport facilities. Several colonies of smallholders exist which make full use of co-operation, but an educational campaign will be needed before the awakening which has taken place in other countries is seen in Great Britain.

#### Aviation.

This is one of the volumes of that very useful series, "The Nation's Library," published by Collins' Clear Type Press, London and Glasgow, at the very moderate price of a shilling each. Following the usual practice in this series, aviation is

one of the most successful pilots of flying machines as a

popular way, avoiding technicalities as far as possible. He has certainly succeeded in producing, not merely in plain language for the ordinary man, but in a most interesting and readable form, a book which in turn is historical, descriptive, and explanatory. Any person of ordinary intelligence, who knows nothing about flying machines, can thoroughly understand this handbook, and derive a great deal of information from it. He can get a general idea of the principles of flying and of how the feat is accomplished. If interested, he will, after perusal, be well prepared to go on to more technical works. The author gives some interesting forecasts of the probable development in the future of the flying machine both for civilian and warlike purposes. Although written in a popular form, the book is very accurate; in fact, the only slight errors we have noticed are of a clerical kind. One date in connection with Lilienthal's gliding experiments appears to be erroneous. When a second edition is called for—as it speedily should be—a little touching-up may advantageously be done. The spread of aviation ought to lead to a wide demand among the general public for a work such as this.

#### Bitumastic Enamel Solution.

NEWCASTLE-ON-TYNE, are the patentees and sole manufacturers of a Bitumastic Enamel Solution, which is applied against rust and corrosion. The firm have issued a reprint of the *Journal of Commerce*, containing a full set of records of their work which show how generally it is used in all parts of the world. Some excellent photographs are reproduced of H.M.S. "Swiftsure," of the "Mauritania," the "Olympic" and the "Imperator"; also of the Gatun Upper Lock, of the Panama Canal. The solution has been applied to the hulls of all the British Navy's ships, and to the hulls of all the mercantile vessels of every nation, to the Liverpool overhead railway, and to the roofs of all the great buildings in the world. It is the only solution which has been applied in every possible case.

#### NEW ISSUE.

of interest is high and is further enhanced by issuing the five years' time we shall have reached a period when the quantity of loanable capital available for new enterprise will be this, but doubtless the directors prefer to be on the safe side, and for a fresh investment after that period.

#### PERSONAL.

Mr. P. Smith

Mr. Stobbs

Mr. Fred W. Harrison

New Transport Committee

[illegible]

The Right Hon. J. Mackenzie, H.C. :—The hon. Member for New South Wales (Mr. Hargreaves) has just been introduced by the hon. Member for Birmingham (Mr. Russell) into the New South Wales Bill, a clause which would have the effect of obligating the Government to purchase the land of the New South Wales Land Company, and to pay the purchase money in instalments, the first instalment to be paid within 12 months, and the balance to be paid in 10 years, at the rate of 10 per cent. per annum.

**Mr. I. R. Ross**, Director, Department of Research, Royal Canadian Mounted Police, Ottawa, Ontario.

Mr. L. Gooding

M. J. Kenworthy and W. Swift

Messrs. G. Kinnell and W. Swift, 100, North Bond Street, N. 100, North Bond Street, N.

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Grand Purdett.

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### RAILWAY NOTES.

National Railway which had been established with the object of securing the Govern-

to operate the railways successfully under the present conditions  
imposed by the Government of the Grand Trunk Pacific Railway.

**Rapid Working at Immingham Docks.** Shipowners are greatly impressed by the magnificent facilities for rapid loading and unloading at Immingham Docks. The time in which a cargo is loaded or unloaded is a matter in which competition is keen.

this total need, 3000 rats were supplied, in 10 full cages, in a house 15 minutes, when rats eat at a little over 20 rats per hour. About 50 per cent of the whole was supplied at the rate of 20 rats per hour.

The P. and O. Company. The latest issue of the "P. and O. Sailing Times" states that in order to the company's customers have been chartered to the Admiralty for service in the transport of troops for the coming season, the "Daguerre" and "Plassey" for Indian work, and the "Soudan" and "Soudan" for the Mediterranean. It is further announced that six of the company's passenger steamers will be despatched to the East Indies, the "Soudan" having been from Marseilles to Calcutta direct, and that this programme will be continued for the next season. The "Soudan" will be despatched to the East Indies, the "Soudan" having been from Marseilles to Calcutta direct, and that this programme will be continued for the next season. The "Soudan" will be despatched to the East Indies, the "Soudan" having been from Marseilles to Calcutta direct, and that this programme will be continued for the next season. The "Soudan" will be despatched to the East Indies, the "Soudan" having been from Marseilles to Calcutta direct, and that this programme will be continued for the next season.

Rubber Packing for High Pressure. James Waller and Co., Ltd., Lion Works, West India Docks Road, E., in their new illustrated catalogue, report the unqualified success of the

**Possible Railway Competition with the Panama Canal.**—After the Panama Canal was opened, the United States Government was opened nearly sixty years ago, but was acquired by the United States Government in 1914. At that time, the West traffic over it was about seven millions sterling, while the Panama Canal traffic was about three times as much. It is, in fact, believed that the latter will become a formidable competitor to the canal, through which only twenty vessels will be able to go within the twenty-four hours. The Panama Canal is, however, a very important and Pacific is insignificant, and the lines are much nearer the commercial centres of the United States than the waterway. Another track is now being laid down.

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1.  $\frac{1}{2} \leq \frac{1}{2} \leq 1$  and  $\frac{1}{2} \leq \frac{1}{2} \leq 1$ .

[illegible]

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LOCOMOTIVES

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and Abbey Works, Shrewsbury.

## RAILWAY STOCK AND SHARE LIST.

### HOME RAILWAY ORDINARY STOCKS.

[illegible]

### Debenture Stocks.

[illegible]**Debenture Stocks** (continued)[illegible]

### Preference Stocks.

## DIVIDENDS CONTINGENT ON THE PROFITS OF EACH SEPARATE CLASS.

[illegible]

### Preference Stocks—

(continued).

[illegible]



## RAILWAY STOCK AND SHARE LIST.

### Colonial Railways.

### Foreign Railways.

CLOSING PRICES.

$$N = MF.$$

### CLOSING PRICES

[illegible]

## OFFICIAL TRAFFIC RETURNS.

<b>Barry.</b>			<b>Great Northern (Ireland).</b>			<b>Metropolitan.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Total for week	£1,702	£1,742	Passengers, etc.	11,111	11,111	Passengers, etc.	11,111	11,111
Goods, etc.	2,785	2,785	Goods, etc.	11,111	11,111	Goods, etc.	11,111	11,111
Total for week	£4,487	£4,527	Total for week	22,222	22,222	Total for week	22,222	22,222
Aggregate for 28 weeks	£151,143	£151,143	Aggregate for 28 weeks	311,111	311,111	Aggregate for 28 weeks	311,111	311,111
Miles open	5	287	Miles open	5	287	Miles open	5	287
Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140	
<b>Caledonian.</b>			<b>Great North of Scotland.</b>			<b>Metropolitan District.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Passengers, etc.	£1,702	£1,742	Passengers, etc.	11,111	11,111	Passengers, etc.	11,111	11,111
Goods, etc.	2,785	2,785	Goods, etc.	11,111	11,111	Goods, etc.	11,111	11,111
Total for week	£4,487	£4,527	Total for week	22,222	22,222	Total for week	22,222	22,222
Aggregate for 28 weeks	£151,143	£151,143	Aggregate for 28 weeks	311,111	311,111	Aggregate for 28 weeks	311,111	311,111
Miles open	5	287	Miles open	5	287	Miles open	5	287
Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140	
<b>Cambrian.</b>			<b>Great Southern and Western.</b>			<b>Midland.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Passengers, etc.	£1,702	£1,742	Passengers, etc.	11,111	11,111	Passengers, etc.	11,111	11,111
Goods, etc.	2,785	2,785	Goods, etc.	11,111	11,111	Goods, etc.	11,111	11,111
Total for week	£4,487	£4,527	Total for week	22,222	22,222	Total for week	22,222	22,222
Aggregate for 28 weeks	£151,143	£151,143	Aggregate for 28 weeks	311,111	311,111	Aggregate for 28 weeks	311,111	311,111
Miles open	5	287	Miles open	5	287	Miles open	5	287
Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140	
<b>Central London.</b>			<b>Great Western.</b>			<b>Midland Great Western of Ireland.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Total for week	£4,508	£4,546	Passengers, etc.	11,111	11,111	Passengers, etc.	11,111	11,111
Goods, etc.	2,785	2,785	Goods, etc.	11,111	11,111	Goods, etc.	11,111	11,111
Total for week	£7,293	£7,331	Total for week	22,222	22,222	Total for week	22,222	22,222
Aggregate for 28 weeks	£258,208	£258,208	Aggregate for 28 weeks	311,111	311,111	Aggregate for 28 weeks	311,111	311,111
Miles open	5	287	Miles open	5	287	Miles open	5	287
Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140	
<b>City and South London.</b>			<b>Highland.</b>			<b>North British.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Total for week	£2,771	£2,831	Passengers, etc.	11,111	11,111	Passengers, etc.	11,111	11,111
Goods, etc.	2,785	2,785	Goods, etc.	11,111	11,111	Goods, etc.	11,111	11,111
Total for week	£5,556	£5,616	Total for week	22,222	22,222	Total for week	22,222	22,222
Aggregate for 28 weeks	£197,904	£197,904	Aggregate for 28 weeks	311,111	311,111	Aggregate for 28 weeks	311,111	311,111
Miles open	5	287	Miles open	5	287	Miles open	5	287
Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140	
<b>Dublin and South Eastern.</b>			<b>Hull and Barnsley.</b>			<b>North Eastern.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Passengers, etc.	£4,518	£4,277	Passengers, etc.	£11,136	£10,468	Passengers, etc.	£11,136	£10,468
Goods, etc.	1,928	1,418	Goods, etc.	5,112	5,644	Goods, etc.	5,112	5,644
Total for week	£6,446	£5,695	Total for week	£16,248	£16,112	Total for week	£16,248	£16,112
Aggregate for 28 weeks	£148,970	£143,594	Aggregate for 28 weeks	£285,701	£261,265	Aggregate for 28 weeks	£285,701	£261,265
Miles open	160	160	Miles open	4,924	4,924	Miles open	4,924	4,924
Inc. this week, £352	Inc. 28 weeks, £4,676		Inc. this week, £352	Inc. 28 weeks, £2,279		Inc. this week, £352	Inc. 28 weeks, £2,279	
<b>Furness.</b>			<b>Lancashire and Yorkshire.</b>			<b>North London.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Passengers, etc.	£4,115	£5,993	Passengers, etc.	£27,000	£27,047	Passengers, etc.	£27,000	£27,047
Goods, etc.	7,923	7,948	Goods, etc.	58,245	64,921	Goods, etc.	58,245	64,921
Total for week	£12,038	£13,941	Total for week	£85,245	£91,968	Total for week	£85,245	£91,968
Aggregate for 28 weeks	£297,879	£344,141	Aggregate for 28 weeks	£3,541,572	£3,117,174	Aggregate for 28 weeks	£3,541,572	£3,117,174
Miles open	152	152	Miles open	90	90	Miles open	90	90
Inc. this week, £352	Inc. 28 weeks, £53,763		Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140	
<b>Glasgow and South Western.</b>			<b>London, Brighton and South Coast.</b>			<b>North Staffordshire.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Passengers, etc.	£21,300	£21,500	Passengers, etc.	£59,119	£58,669	Passengers, etc.	£59,119	£58,669
Goods, etc.	22,000	21,000	Goods, etc.	15,789	14,783	Goods, etc.	15,789	14,783
Total for week	£43,300	£42,500	Total for week	£74,908	£73,452	Total for week	£74,908	£73,452
Aggregate for 28 weeks	£993,800	£923,560	Aggregate for 28 weeks	£1,693,455	£1,620,930	Aggregate for 28 weeks	£1,693,455	£1,620,930
Miles open	40	40	Miles open	31	31	Miles open	31	31
Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140		Inc. this week, £352	Inc. 28 weeks, £1,140	
<b>Great Central.</b>			<b>London Electric.</b>			<b>South Eastern and Chatham.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Passengers, etc.	£1,702	£1,742	Passengers, etc.	£1,702	£1,742	Passengers, etc.	£1,702	£1,742
Goods, etc.	75,500	70,000	Goods, etc.	75,500	70,000	Goods, etc.	75,500	70,000
G.C. proportion of Joint Lines	£19,900	£18,500	G.C. proportion of Joint Lines	£19,900	£18,500	G.C. proportion of Joint Lines	£19,900	£18,500
Total for week	£122,700	£115,600	Total for week	£122,700	£115,600	Total for week	£122,700	£115,600
Aggregate for 28 weeks	£3,101,700	£2,866,700	Aggregate for 28 weeks	£3,101,700	£2,866,700	Aggregate for 28 weeks	£3,101,700	£2,866,700
Miles open	51	40	Miles open	51	40	Miles open	51	40
Inc. this week, £352	Inc. 28 weeks, £515,100		Inc. this week, £352	Inc. 28 weeks, £515,100		Inc. this week, £352	Inc. 28 weeks, £515,100	
<b>Great Eastern.</b>			<b>London and North Western.</b>			<b>South Eastern and Chatham.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Passengers, etc.	£74,100	£73,800	Passengers, etc.	£164,000	£157,000	Passengers, etc.	£164,000	£157,000
Goods, etc.	1,100	1,100	Goods, etc.	154,000	154,000	Goods, etc.	154,000	154,000
Total for week	£75,200	£74,900	Total for week	£318,000	£311,000	Total for week	£318,000	£311,000
Aggregate for 28 weeks	£2,926,600	£2,856,200	Aggregate for 28 weeks	£8,200,000	£7,442,000	Aggregate for 28 weeks	£8,200,000	£7,442,000
Miles open	1	1	Miles open	1	1	Miles open	1	1
Inc. this week, £1,700	Inc. 28 weeks, £70,400		Inc. this week, £7,000	Inc. 28 weeks, £7,000		Inc. this week, £7,000	Inc. 28 weeks, £7,000	
<b>Great Northern.</b>			<b>London and South Western.</b>			<b>Taff Vale.</b>		
Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.	Week ending July 12	1913.	1912.
Passengers, etc.	£59,500	£56,500	Passengers, etc.	£80,800	£78,100	Passengers, etc.	£80,800	£78,100
Goods, etc.	75,100	77,100	Goods, etc.	32,400	32,400	Goods, etc.	32,400	32,400
Total for week	£134,600	£133,600	Total for week	£113,200	£110,500	Total for week	£113,200	£110,500
Aggregate for 28 weeks	£3,769,600	£3,740,800	Aggregate for 28 weeks	£2,655,700	£2,546,400	Aggregate for 28 weeks	£2,655,700	£2,546,400
Miles open	1	1	Miles open	1	1	Miles open	1	1
Inc. this week, £352	Inc. 28 weeks, £7,000		Inc. this week, £352	Inc. 28 weeks, £7,000		Inc. this week, £352	Inc. 28 weeks, £7,000	

[illegible]



<sup>a</sup> See in p. 10012, 1 in dollars, 2 in pesos, 3 in aureos, 4 in pesos, 5 in dollars, 6 in dollars, 7 in Bolivian currency & in Mexican dollars.  
W = wages, A = salaries, P = profits, I = interest, R = rents, S = savings, D = depreciation, E = earnings, F = foreign, G = government, H = household, J = household, K = household, L = household, M = household, N = household, O = household, P = household, Q = household, R = household, S = household, T = household, U = household, V = household, W = household, X = household, Y = household, Z = household.



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ON THE CONTINENT.

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AMSTERDAM	15	44/9	30/11	—
GHENT EXHIBITION	15	55/0	36/0	23/6
DO.	15	34/0	28/6	18/6
CALAIS	3	24/-	15/6	15/6
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Ramsgate	15	11/8	9/-	7/-
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Sandgate	17	12/6	9/-	7/-
Sandwich	18	12/6	9/-	7/-
Tunbridge Wells	8	6/6	5/4	4/6
Walmer	18	12/6	9/-	7/-
Westgate	15	11/8	9/-	7/-
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# The Railway Times

A Journal of Finance, Construction, and Operation.

Vol. CIV.

SATURDAY, JULY 26, 1913.

## PRINCIPAL CONTENTS

## RAILWAY INTERIM DIVIDENDS.

## THE RAILWAY TIMES.

Established in 1837.

PUBLISHED EVERY SATURDAY.

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All communications for the following issue should be received not later than 6 p.m. on Friday.

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Advertisements of which proof is desired should reach us by the second post on Wednesday.

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### THE INTERIM DIVIDEND

It has been well said that railway shareholders can stand a national coal strike, a national railway strike, but they find it impossible to endure the directors and their interim dividends. Certainly, the management of the railway companies has been introduced by some of the interests of the proprietors against which we warned the official railway world. There are already signs of an appreciation of this fact, we are glad to note, and in several cases the interim dividends have been supplemented by information of a more liberal dividend. The cashire and Yorkshire dividend was announced on Monday last, and it was the first since the beginning of the year. On account of the coal strike the dividend was reduced from  $4\frac{1}{2}$  to  $3\frac{1}{2}$  per cent. a year ago. In spite of a recovery in receipts of about £220,000, the dividend is only increased to  $3\frac{1}{2}$  per cent., the additional  $\frac{1}{2}$  for the half-year representing a sum in cash of about £24,000. This may or may not be satisfactory, but as no details are given it has not unnaturally been interpreted as discouraging. On Wednesday the South Eastern and Chatham Companies announced their respective dividends, and they were rather more satisfactory. They were also accompanied by details of the net revenue of the Managing Committee for the half-year, which render it possible to take an intelligent view of the situation. It appears that the Managing Committee has practically recovered the loss in net revenue sustained during the coal strike half-year, namely, about £32,000. This sum represents about 25 per cent. of the gross increase published during the half-year, which amounted to £123,000. Acting on the figures supplied by the Managing Committee, the South Eastern board have been enabled to increase their half-yearly dividend from  $1\frac{1}{2}$  to  $1\frac{1}{2}$  per cent. per annum, but the balance carried forward is reduced by about £3,600. As this is equivalent to the best dividend paid by the South Eastern Company in the lean half of any year for the past fourteen years, it is not unsatisfactory. The Chatham Company is paying the full half-year's dividend upon its Arbitration Preference stock, but does not disclose its balance. According to the Managing Committee's figures, however, it is probable that the South Eastern's second preference stock has been considerably augmented, and it may be assumed that it is earning at the present time about 2 per cent. It was reserved for the great Thursday almost to demoralise the market, and the action of that company shows that the new system of interim dividends has not been a failure. The directors of the South Eastern and Chatham Companies have shown some reason known to the board of directors.

The jury heard at the coroner's inquest, in which the witness for the Great Eastern Railway Company admitted that the express train, which was the cause of the collision, was not stopped by the signalman, and the verdict of the jury leaves little or no doubt as to the cause of the collision. Unfortunately, the cause is the same as that which has brought about some other railway disasters in the past, and until the uncertainty of the human element in signalling can be done away with, there must remain some possibility of such accidents happening. A light engine had been taking in water and was standing on the main line. The signalman unaccountably forgot the presence of the engine and allowed the express to come on, with the disastrous results which are known. The light engine was close to the signal box, and could surely have been seen by the signalman if he had looked out of the window. The signalman, too, could not have been so careless with rule 55, sent his stoker to remind the signalman, and the express was stopped, but it was too late, and apparently he was too late to avert the disaster. If the signalman had been a little better, he would have avoided the collision, and the express would not have been stopped. There was plenty of time for that operation. It is certainly a very bad thing to have such a deadly man of an engine driver described as a first-class signalman, should have suffered such a lapse of memory. Immediately after the accident he blocked the other line to prevent trains in the opposite direction from coming on, and the light engine driver also acted with great presence of mind in starting his engine as soon as he saw the express coming, so as to diminish the force of the collision. The coroner's jury have found

The summary of the official traffic returns for the fifty principal railways for the week ended July 20 gives a total of £2,595,334, which was earned on 21,048 miles, being at the rate of £118 4s. 11d. per mile of line open. For the corresponding week of 1912, the receipts of the same lines amounted to £2,453,634, with 21,890 miles open, or £112 1s. 9d. per mile. Thus there was an increase of £141,700 in the receipts, an increase of 58 in the mileage, and an increase of £6 3s. 2d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £84,048 (or £3 15s. 5d. per mile) in the passenger receipts and an increase of £53,837 (or £2 7s. 1d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the twenty-nine weeks in the passenger receipts has been £1,903,565, while the aggregate increase in the goods traffic was £4,154,509. The aggregate receipts of the fifty railways for twenty-nine weeks—December 29 to July 20—amounted to £6,474,790, in comparison with £58,390,425 last year, an increase of £6,242,341, not including receipts from certain canals, etc. It will thus be seen that the volume of traffic is being well maintained. The increase on the week is especially notable and it is clear that we are not yet faced with any serious reaction in trade.



# MONEY AND STOCK MARKETS.

## SETTLEMENT DAYS.

Continuation Days.	Ticket Days.	Pay Days.
Monday .....	Monday .....	Monday .....
Tuesday .....	Tuesday .....	Tuesday .....
Wednesday .....	Wednesday .....	Wednesday .....
Thursday .....	Thursday .....	Thursday .....
Friday .....	Friday .....	Friday .....
Saturday .....	Saturday .....	Saturday .....
Sunday .....	Sunday .....	Sunday .....

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

At 12 noon. Last week. Same Week Last Year.

Bank of England and Bullion	£1,000,000	£1,000,000	£1,000,000
Treasury and Bank of America	£1,000,000	£1,000,000	£1,000,000
Provision of Liabilities	53.60 p.c.	53.55 p.c.	50.40 p.c.
Notes in circulation	£1,000,000	£1,000,000	£1,000,000
Foreign currency	£1,000,000	£1,000,000	£1,000,000
Current account balances	£1,000,000	£1,000,000	£1,000,000
Reserve	£1,000,000	£1,000,000	£1,000,000
Silver bars, per oz. (spot)	73	73	73
Consols (account)	£31,500	£31,500	£31,500
French 3 per cent. (acc.)	£1,000,000	£1,000,000	£1,000,000
Paris Cheque exchange	£1,000,000	£1,000,000	£1,000,000
New York 60 days ditto	£1,000,000	£1,000,000	£1,000,000
Rio de Janeiro exchange	£1,000,000	£1,000,000	£1,000,000
Valparaiso 90-day exche	£1,000,000	£1,000,000	£1,000,000
Hong Kong transfers	£1,000,000	£1,000,000	£1,000,000
Shanghai transfers	£1,000,000	£1,000,000	£1,000,000

The Bank Return this week again discloses very satisfactory figures. The amount received from abroad was £604,000, the greater portion of which came from Brazil; there were no withdrawals for export, but about £196,000 was taken for the provisions and the active note circulation expanded by some £68,000; the Reserve is, therefore, £420,000 higher. Money has been in moderate demand owing to the approach of the month-end, but discounts have tended towards greater ease as further shipments of gold are anticipated from South America, which will serve to provide the Bank against the usual autumn demand. Public Deposits have risen £1,144,000, and Other Deposits are lower by £657,000, borrowing from the Bank having been on a very small scale as is seen in the addition to Other Securities, which amounts to no more than £60,000. As the result of all changes, the ratio of Reserve to the liabilities of the Bank has improved to 51.1 per cent. The improvement in the position of anything like a monetary crisis has been averted by the wisdom with which the financial position, national and international, has been handled, though some might be inclined to assert that a Bank Rate of  $4\frac{1}{2}$  per cent. at the end of July is in itself enough to constitute a crisis. According to this view we are, in fact, passing through the critical state, but a crisis that does not develop an acute stage is shorn of its terrors and can only lead to a period of quiet recuperation, during which business is conducted on a reduced scale. Canada remains a source of some uneasiness, but if crops are good this year no great harm is likely to ensue. The Stock Markets have been affected by the same factors which have now been so long in evidence.

the Prime Minister's speech at Birmingham having in Chinese have declined on the danger to the central Government caused by spreading rebellion in the southern provinces. Japanese, on the other hand, have risen, and

by the United States Government with regard to that republic. It seems likely that this and others of the small Central American states will in time come to occupy the same position as does Cuba. Home Rails have been dull on disappointing dividend statements, also on the reticence of the directorates as to the policy they are following and the reasons for it. A distinction, however, must be made between a final dividend for the half-year which formerly was declared and the interim dividend which now obtains. In the present strained relations with labour and the not altogether easy relations with the powers that be, it is argued that in the interests of shareholders directors are justified in not wholly revealing their policy. Canadas have held up very well, but weakness has characterised Trunks and more especially Mexicans. With regard to Trunks, however, the favourable reception accorded to the issue of five-year notes dealt with in our previous issue, had a supporting influence, and doubtless prevented further decline. United States railways benefited by good reports upon the progress of crops. Argentine rails were depressed by the news that another £1,000,000 was to be issued by the Buenos Ayres Pacific line, and the ordinary stock of this railway was naturally the most affected. It is believed, however, that this is the last application that will be made by the company to the public for more money for some time to come, and there is no reason to doubt but that the whole of the new expenditure of capital will prove fruitful in course of the next year or two.

Last Saturday, the markets opened with a steady tone, though little business was transacted. United States railways rose, but the chief feature of the day was a fall in Chinese issues. On Monday, the opening was characterised by depression, the scarcity of orders of every kind being particularly marked; later on, however, a demand sprang up from Paris which tended to improve business, and this was supplemented by some buying from New York. Canadas made an advance of  $\frac{1}{2}$ . The next day the same conditions obtained during the morning, but altered for the worse during the afternoon, and weakness ensued which developed further on Wednesday, when Home Rails declined because the figures which accompanied the dividend announcement by the South Eastern and Chatham directors were considered disappointing. The following day began with as much depression as before, but the proximity of the settlement caused some purchases to be made by "bears" which created a rally before the end.

On Friday, a number of Home railways declared the dividends payable for the half-year. The North Eastern, South Western and Taff Vale were all 1 per cent. more than last year. This put a very different complexion on the state of affairs, and the whole active list rebounded. Among foreign Government stocks, Chinese and Brazilian issues made a significant recovery, and American rails, after a dull opening, recovered sharply. Canadas and South

American railways. The tendency on the whole was rather better than last year. Improvement in quotations for the latter cannot be postponed for ever in view of the large return which they now yield. Midland deferred, for example, paid  $5\frac{1}{2}$  per cent. for the last half of 1912, and  $3\frac{1}{2}$  is the figure just announced for the first half of 1913. The deferred shareholders are, therefore, now receiving  $4\frac{1}{2}$  per cent. per annum or has the

## JULY 26, 1913.

## INQUIRY INTO THE CROMER EXPRESS ACCIDENT.

A full and complete inquiry into the circumstances and causes of the Cromer express train who were killed as the result of the collision with the light engine.

Philip Laing, locomotive inspector, who was assisted into court and appeared to be in a weak state, gave evidence that he rode on the engine for the purpose of booking times. The train was a few minutes late at North Walsham. When half-way through Colchester station he saw the light engine on the up road. It was impossible to see it sooner owing to the curved line. The driver immediately applied the brakes, and the express slowed down, but the engine struck the light engine, and fell over on its side. Witness was sitting down at the time, and the coal partly buried the lower part of his body. The driver fell on top of him. There was no instrument on the engine to show the rate at which they were travelling. They estimated the speed by distance between the stations. When passing through stations they slowed down to what they estimated was the regulation speed of forty miles an hour. When he first saw the light engine it was moving.

Edward Greenfield, chief signal inspector, produced a diagram of local signals. From inquiry he had made it appeared that the light engine had been shunting at Colchester Junction on the Ipswich side. After disposing of its train it was signalled to leave the Junction box for Colchester Station. The signalman at the Station box "accepted" the light engine in the usual way. The Junction signalman's book showed that the light engine ran up the up line and stopped to take water at the column close to the signal-box. As soon as a goods train had been cleared the light engine should have been passed over to the down siding. The light engine could have crossed the points within a minute.

The Coroner: Speaking as an expert, should the fireman on the light engine have gone to the Colchester signal-box immediately the light engine stopped to warn the signalman that they were there?—Yes; it was the duty of the driver to have sent the fireman to the signal-box.

You tell us there was neglect of observance of regulation on the part of both the signalman and the driver of the light engine?—I am afraid that is so, sir. At 2.52 the Junction signalman asked by signal: "Is line clear?" The man at Parson Heath replied that it was, and at the same time put the question to Kerry, who replied, "Line clear." As soon as Kerry in turn had inquired of and received the "line clear" from Lexden, he would put the signal down. The Junction signal book showed that the express passed at 2.56.

Driver Fisher, of the light engine, who was commended by the Coroner for the heroic way in which he stuck to his post, said the collision occurred whilst he was waiting to cross over from the up to the down line. Seeing the signals go down, indicating a clear up-line, he several times sounded his whistle to attract the signalman's attention, and also sent his fireman to the signal-box. As soon as his mate had gone, witness saw the express approaching. He at once reversed his engine, but could not prevent the accident. He was so near the box that he thought Kerry must have heard his whistle, which was shrill and in good order. He had been an engine driver for thirty-one years.

Tom Manning, fireman of the light engine, said when he ran towards the box, the windows of which were open, the express rushed past him, and he shouted to the signalman: "You have left my mate on the line." Witness got no answer to his call, and could not see the signalman.

Arthur Goodrich, telegraph boy, who was in the signal-box at the time of the collision, said he saw the express run through the station, and heard Kerry say, "I have done it." Witness asked what was wrong, and Kerry replied, "I have forgotten the light engine on the up road, and have let the express into it." Witness heard no shouting or whistling.

Edwin Kerry, the signalman, said he had been signalman for twenty-five years. Just before the accident he closed the points for a goods train and forgot the light engine. He thought he had cleared the line. After the goods train had gone he received a signal, "Is the line clear for Cromer express?" and replied that it was. Had he followed his usual practice and looked out of the signal-box window, he would have seen the light engine. The only reason he could give for not hearing Driver Fisher's whistles was that

off steam. After the smash he threw all the signals up, and

The inquiry at this stage adjourned until the following day.

When the inquest was resumed on Tuesday, Edward Greenfield, chief signal inspector, was recalled, and was questioned as to his statement that there was neglect on the part of Kerry of the regulations. He replied that he was referring to regulations requiring Kerry to put on the lever collar, to ascertain by personal observation that the line was clear, to keep the home signal at danger until satisfied the light engine was off the line, and forbidding him to signal "Line clear" until he was satisfied that it was. It was the duty of the station-master in the course of visits of supervision he was required to make, to see the lever collars were properly used.

James Nibloe, station-master at Colchester North Station, stated that he had always found Kerry attentive to his duties. "He had always struck me as being a very careful signalman," added the witness.

Oswald Merchant, the signalman whom Kerry relieved at two o'clock on the afternoon of the disaster, said Kerry was "absolutely sober, cheerful, and in his usual state of mind" when he came on duty. Kerry had always been very punctual in relieving witness.

Mr. F. G. Randall, superintendent of the line, gave evidence as to Kerry's good character.

Mr. J. E. Williams, secretary of the National Union of Railwaymen, was then allowed to go into the witness-box. He stated that he had had thirty years' experience on the railway, twenty of which he had spent as signalman. He had been engaged in very important signal cabins where the lever collar had been in operation, and he could say most emphatically that he never knew a collar to be used unless there was a probability of delay. He did not consider that four or five minutes was an unusual time for a light engine to be standing near the points, and in his opinion the time required to clear the goods train would not cause the light engine to be kept standing for an unusual time within the meaning of the company's rules. There was no evidence to show that this light engine stood near the points for ten minutes waiting to cross over, but if he had been in the signal box and the engine had stood on the line for ten minutes he would probably have used the lever collar.

The jury found that deceased died as the result of a collision between the express and a light engine, through the line not being clear owing to inadvertence and lapse of memory on the part of Signalman Kerry, and by his neglecting to fix the lever collar, and by not satisfying himself by personal observation before accepting the express. They found no gross or culpable negligence amounting to manslaughter. They commended Driver Fisher for his gallant conduct in endeavouring to prevent the collision, and they commended Kerry for having prevented a further calamity by putting up the signals against the down express. The Coroner interpreted this as a verdict of "Accidental death."

The jury added a rider that the rule referring to the use of the lever collar should be strictly enforced.

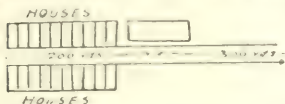
## The Purchase of the Crystal Palace.





...the baker's cart delivers in one street, the grocer's in a second, the butcher's in a third, and so on. In fact, half-a-dozen tradesmen combine, and by parcelling out the town amongst them effect the whole delivery at not more than half of what the cost would be if each carried out his

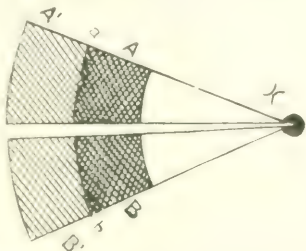
At Malvern this arrangement was made in consequence of physical conditions. It is, however, just the type of arrangement necessary to meet the new conditions imposed by motor transport. I would contrast it with some records taken in a road some weeks back. The road contains 20 occupied



only one called at more than one house. The consignments left as a rule were quite trifling. The whole of a day's consignments would only have occupied a small corner of one van, yet four van-miles were run at a cost of some 3s., where a half van-mile would have sufficed at a cost of perhaps 6d. In many cases the cost of the half van-mile in the road must have absorbed all the profit of the trader.

In the next place a motor vehicle must cover a large delivery area, and it is of moment that this larger area be arranged so as to give in the total the smallest number of van-miles.

Looking at the diagram, which shows a trader at X delivering goods in the districts A A<sup>1</sup> B and B<sup>1</sup> by horse vehicle, if a motor vehicle is substituted two, at any rate, of these areas can be combined. To obtain the minimum van mileage the



A<sup>1</sup> B<sup>1</sup> should be combined, and not the areas A A<sup>1</sup>, A and B, B<sup>1</sup>. The latter arrangement compels each van to run to the boundary of the outer circle instead of one stopping short at the inner circle a b. Further,

the same phenomena. The arrangement of delivery areas must be studied not merely from the point of view of getting good loads, but also with the view of keeping the van mileage to a minimum. The working out of the areas so as to yield the greatest economy is a complicated problem, requiring more attention and skill than is at present devoted to it.

A matter which arises directly out of what has been said above is that the individual delivery area should be kept as small as possible consistent with obtaining good van-loading. If this is to be effected there must be combination on an extensive scale, not only amongst traders and manufacturers, but amongst the carrying agencies. Such combination has already begun. It is well known that over most of the country the railway companies have combined their cartage staffs. Round London some of the largest road carriers have entered into arrangements parcelling out various suburban areas amongst them. It is only a few steps forward to the proposed London Goods Clearing House, which carries the combinations to their logical conclusion of a final single combine. The great bulk of the economies can be obtained without going so far as this. Still, it seems clear that the organisation must tend in the direction of parcelling out the areas amongst the various carrying agencies.

The question of costs is one it is practically impossible to deal with in a short paper or at the present time in any way generally. Costs depend on so many local circumstances. The character of the traffic, the length of haul, the loads

for a different business in a district of differing characteristics.

for the motor vehicle is provided out of the public funds. If the motor owners had to provide the public roads according to the rates, there would be far fewer cases in which railway carriage was not cheaper. Still, motor users take things as they are, and will no doubt maintain the present basis of payment for road maintenance as long as they can.

I venture to think, however, that to the community the most important advantages must be looked for elsewhere. Absence of handling of goods and rapid transit for the goods are advantages on which great stress must be laid. Take fruit traffic as an instance. Every handling is an additional risk of damage to the fruit. The more frequent the handling is to be the more careful and costly must the packing be. Then with fresh fruit, like strawberries, speed of transit is of such moment that a delay of a few hours will often reduce the price in the market substantially—I have met with cases in which it has amounted to 50 per cent. This is one of the very clearest cases in which a small difference in transport costs is unimportant compared with the character of the service.

The handling is, however, a matter which affects traders generally. The handlings from road vehicle to railway truck and back again are not merely items of direct expense, but often compel an expense for packing in excess of the direct expense. It is useless to put figures of the cost before you, as they vary in every trade enormously. The cost is, however, a steadily increasing one, as all traders are aware. Besides, when a breakage occurs it is not merely a question of the value of the damage done; the inconvenience to the customer often counts for much more. Motor transport undoubtedly reduces the percentage of breakages.

There are advantages, too, which it is difficult to express in pounds, shillings, and pence. What value to put on the advertisement of the motor van I do not know. I have had it valued at figures ranging from 20 down to 2 per cent. of the transport bill. It is undoubtedly worth something. Then there is the convenience. Goods are despatched in the morning, and the receipts for them are back in the manufacturer's hand the same morning.

There are, of course, limits to the usefulness and economy of motor transport for goods. At present for general merchandise the limit of distance is in the neighbourhood of 50 miles, and even then there is little chance of economy unless the bulk of the distance can be made a through run with practically a full load. For low-grade goods the limit in distance would be much less, but for explosives and goods subject to very high railway rates the limit is much higher. It is, however, in the delivery work near our large towns that the greatest benefit is to be obtained. It is only when motor vans generally displace the slow horse traffic that the streets will feel the full benefit of the change which has been made in the passenger vehicles. At present the faster traffic has been made faster still, whilst the slow traffic is as slow as ever. Re-organise the heavy traffic so as to make it economical to use motor vans, and the traffic problem of London and many of our large towns will be practically solved for at least ten years and probably for twenty.

## THE ALL RED ROUTE TO CANADA

It is stated that a contract of over £1,000,000 has been signed for the construction of a railway from

county of Sligo, to Blackhead, for the purpose of connecting the port for the steamers to Halifax, with

railway was sanctioned by Parliament, and the connection with the preliminary arrangements.

### THE ROYAL TOUR IN LANCASHIRE.

In the newspaper reports of the royal visit to Lancashire great prominence was given to the motor journeys through the various parts of the country, but it should be pointed out that the success of the tour also depended, to a great extent, on the railway arrangements. In fact, with the exception of Friday, July 11, and Sunday, July 13, the royal train was in use daily. The whole period of travel passed without the slightest hitch, and the tour may be described without exaggeration as a complete success, the long programme having been gone through without failure of any description.

The royal train was provided by the London and North Western Company, and in order that the daily programme could be carried out, in some cases the train left the royal party at one station and picked them up at another some miles away. During the time the train was running over the Lancashire and Yorkshire "territory" it was worked by that company's engine, and was in charge of their officials.

Although the Lancashire tour commenced on Monday, July 7, it was on Tuesday, July 8, that the first railway journey was run, *i.e.*, from Blackpool (T.R.) to Rainford Halt. For the convenience of the royal party, the Lancashire and York-

The King and Queen motored through Nelson, Padiham, Accrington, Haslingden, Rawtenstall and Bacup.

The royal train was due to depart from Rochdale at 5.50 p.m., and it was therefore necessary for the empty train to be worked from Colne to Rochdale, where the engines were overhauled, and the carriages cleaned, etc., in readiness for the return journey to Rainford Halt, a distance of 30 miles, 42 chains. Rainford Halt was reached at 6.39 p.m.

On Thursday, July 10, the greater part of the programme was carried out by motor, and the train was only called into use for the journey from Bolton (Trinity Street) to Rainford Halt. On Saturday, July 12, the train journeys were from Huyton (L. and N.W.) to Ashton (Charlestown, L. and Y. Railway), and from West Leigh (L. and N.W.) to Huyton. These trains were worked by the London and North Western Company.

### SOUTH EASTERN AND CHATHAM INCREASED RATES.

The Railway and Canal Commission sat last week to consider an application by the South Eastern and Chatham Railways Managing Committee to authorise the raising of the



London and North Western Train for the King's Tour.

the railway company conducted a special train from Rainford to the Manchester and Liverpool main line, and returned the royal train.

The train was worked by the London and North Western Company, and was piloted by a special engine as pilot. The formation of the train was as follows:—Break van, 57ft. saloon No. 5076, H.M. the Queen's saloon, H.M. the King's saloon, dining car No. 200, 57ft. saloon No. 5076, and a break van.

On July 8, the train left Blackpool at 5.50 p.m. and after making three stops at Lytham, St. Anne's-on-Sea, and Preston, departed for Rainford Halt at 6.39 p.m. The train was piloted by a special engine, and the royal party boarded at Rainford Halt.

On Wednesday, July 10, the train was worked by the London and North Western Company, and was piloted by a special engine as pilot. The formation of the train was as follows:—Break van, 57ft. saloon No. 5076, H.M. the Queen's saloon, H.M. the King's saloon, dining car No. 200, 57ft. saloon No. 5076, and a break van.

rates for certain traffic. Sir A. Cripps, K.C., explained that the applicants were in a different position from that of the other railway companies owing to the provisions of the Act of 1899, which authorised the working union between the old South Eastern and the Chatham lines. That special Act forbade any increase in rates and fares existing in 1899 without leave of that Court, and all that the applicants asked now was to have that clog removed, so that they would be in the same position as the other companies as regards the Act of 1913. He asked for a temporary order removing the special clog of the Act of 1899, and leaving any principles raised by the Act of 1913 to be settled later. The applicants really were asking for very little; the increases only applied to certain competitive stations at which they had not a heavy traffic; but the companies in competition with the applicants requested to make the same order for the Act of 1913.

After hearing objections on behalf of the Horticultural Trades Association and Elders, Fyfe and Co., Mr. Justice Bankes said there was no evidence that the objectors would be affected by the increase. The order allowing the increase would apply only to the particular rates specified, and would not be an order to remain in force for all time, but would be subject to be challenged by anybody on proper material.

The other members of the Court agreed, and the increase was allowed accordingly.



## MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

July 20 (Sat.)	Furness Withy and Company (Limited), Warrington, 11.15.
July 22 (Mon.)	Egyptian Delta Light Railways (Limited), Warrington, 11.15.
July 23 (Tue.)	Whiteshapel and Bow Railway (Limited), Warrington, 11.15.
July 30 (Wed.)	Somerset and Dorset Railway (Half-yearly), Waterloo Station, S.E., at 10.45.
July 31 (Thurs.)	Demerara Railway (Extraordinary), Cannon Street Hotel, E.C., at 12.

*Reports, Traffic Returns, Prospectuses, and all other items of financial intelligence should be sent as early as possible to the Editor of THE RAILWAY TIMES, 12, Norfolk Street, London, W.C. (Telephone, 2418 central. Telegrams, address, Altonia, London.)*

## EAST INDIAN RAILWAY COMPANY.

The 10th annual general meeting of the Company was held at Waterloo Station, London, at 10.45, on the 23rd inst., Sir FREDK. R. UPCOTT, K.C.V.O., C.S.I., in the chair.

The SECRETARY (Mr. Chas. W. Young) read the notice convening the meeting.

The CHAIRMAN said: It is with sincere regret I have to record the death of Sir James Bourdillon, who had been a director of the East Indian Railway for the past four years. He was a colleague of much assistance to the board from his intimate acquaintance with the staff of the line. The board of directors are fortunate in having obtained the services of Lord Kilbracken to fill the vacancy. Lord Kilbracken is perhaps better known as Sir Arthur Godley, for many years Under Secretary of State for India. From letters that have been received the directors have learned with regret that the alteration of the date for paying the accruing interest has occasioned some inconvenience to a few of the deferred annuitants. This alteration was necessary in order to fall in with the Secretary of State's suggestion in making the accounts up to coincide with the official, in place of the calendar, year. The interest will henceforward be payable in August and February, with such dividends as may be declared for the half-years ending on March 31 and September 30. The report now before you deals with the accounts for nine months—the first part embraces the period from July 1 to December 31, 1912, and the second part deals with the quarter-year up to March 31, 1913. This report, I presume, may be taken as read. (Hear, hear.)

Dealing first with the accounts in respect of the half-year ended December 31, 1912, it is very satisfactory to the board to be able to present you with accounts which show final results better than I estimated at our last meeting. The gross receipts were Rs. 518 lakhs, nearly Rs. 40½ lakhs more than those of the corresponding period of 1911. The working expenses were Rs. 100 lakhs, Rs. 18 lakhs more than in 1911, and Rs. 1½ lakhs better than the figure I gave you in December, 1912. After providing for all the fixed charges against the net

Rs. 136 lakhs, the company's share of which, after allowing for Indian income tax, is Rs. 12,10,323. This sum has been brought home at the exchange of 1s. 4.006d. to the rupee, and enables the board to recommend the payment of a dividend in respect of the half-year in question of £1 5s. per cent. on the deferred annuity capital in addition to the guaranteed interest of £2 per cent., compared with 2½ in 1911, and is 1s. per cent. more than the amount I estimated in December last. This £1 5s., added to the dividend of £1 8s. for the first half of 1912, makes the distribution, including the guaranteed interest, £6 13s. per cent. for the year 1912. The fixed charges were somewhat higher than in the corresponding period of 1911, owing to heavier interest charges, the capital expenditure having been increased by Rs. 120.44 lakhs during the year.

With regard to the coaching traffic of the half-year, there was a very satisfactory increase both in the number of third-class passengers carried and in the receipts therefrom, counterbalanced by a falling off in the upper classes. In the corresponding period of the previous year the receipts from those classes were largely augmented by the traffic into Delhi in connection with the Durbar held in that city in December, 1911.

of the staples of the merchandise traffic, such as sugar, wheat, jute, kerosine oil, cotton, etc., also gave very satisfactory increases. The quantity of coal carried during the whole year 1912 was 4½ million tons over the quantity carried in 1911.

The working expenses of the half-year were Rs. 15 lakhs more than those of the corresponding period of the previous year, Rs. 8 lakhs more than in 1911.

For the three months ended on March 31 last, the gross receipts were Rs. 111.27 lakhs, and the net receipts Rs. 150.30 lakhs, being some Rs. 10 lakhs better than those of the corresponding period of 1912, the result being a divisible surplus between the Government and the company of Rs. 63,14,004, the company's share of which, after deducting Indian income tax, is Rs. 5,77,448.

This amount has realised the sum of £38,547, which enables the board to recommend the payment of a dividend for the period in question of 12s. per cent. on the deferred annuity capital. This result the board consider satisfactory. The dividend for the quarter ended March does not necessarily represent the proportionate ratio for a twelve months, the period being an odd one. Of the new works undertaken in recent years, the line running from Barharwa, where the loop line leaves the Ganges river, to Hugli on the right bank of the Bagarati river, called the Hugli river in the lower reaches, is now open for traffic. The traffic will, the Board believe, materially add to the receipts of the Undertaking, although the branch has not yet been open sufficiently long to afford a definite figure for its mileage return, but the prospects are encouraging. Of the works undertaken to provide greater facilities for meeting increased traffic, I may mention the direct line from Burdwan to Howrah, which has been sanctioned, is now being surveyed, and construction will, it is hoped, be put in hand this coming autumn. Also a second down line from Burdwan to Bandel on the existing main line, which has now a double track, and increased accommodation in some of the Howrah sheds to provide for more speedy release of loaded wagons; improved working arrangements in the coal district, and the building of more wagons and engines to carry out the policy of providing an additional 10,000 wagons and 170 engines within three years, this being the second year since the receipt of sanction to these additions. The new lines proposed are a branch from Gaya to Shergatta, and from Sutna to Rewah, capital for both of these being provided by our company.

As we are now in the middle of the half-year, April to September, the accounts for which will be presented to you in January, 1914, it is impossible to give any indication of what the results may be, but we must anticipate some falling off in traffic compared with the period in the corresponding months of 1912, when we were breaking all previous records in traffic gross receipts. I regret to say that the building of the Mokameh Bridge to effect a junction with the metre gauge lines on the north of the Ganges has not yet been sanctioned, although a definite scheme has been arranged between the Bengal and North Western Railway and ourselves, and the necessity in the interests of the trade of the country generally of replacing the wagon ferry is even more urgent than ever. There was at the end of last month, I am very sorry to say, a serious accident attended with the loss of 23 lives near Ondal on the Ondal-Sainthia line, due to an unprecedented fall of rain washing out a bridge crossing the river Salke, into which part of a passenger train fell. The full details of the incident have

that any annuitant may wish to put.

be received and adopted.

motion.

The resolution passed unanimously.

The CHAIRMAN: The next resolution is that the sum of Rs. 5,77,448 be paid to the deferred annuity holders in the form of a dividend for the three months ended March 31, 1913.

three months ended March 31, 1913.



time to time have to sell bonds, and the markets were very difficult; and this course he considered was best not only in the interest of the shareholders but in the interest of the bondholders and the company at large. The prospects for the present year were most encouraging. The earnings so far were £80,000 gross in excess of last year, and he thought that instead of having £225,000 of income from 450 miles, he would be disappointed if they did not have £250,000 at the end of this year. With regard to the borrowing powers. In addition to being the holding company of the Manila Railroad Company of New Jersey, they were also the contracting company of the American Government to build the various lines which they were now constructing, and it was considered advisable that they, as the holding company, should become their contractors, and they were bound as contractors to carry through the works, and within a specified time to build the various roads for which the authorities at Washington sanctioned concessions being given. To do that work thoroughly they must work from several railheads, consequently they had to get their gangs at work at various points. To-day they were working from five different points. As contractors they got back in payment for the work done guaranteed bonds on a certain scale, bonds, the interest on which was guaranteed for a term of years by the Philippine Government, which bonds they had to market to refund themselves for their expenditure. Unfortunately they only got those bonds as sections of 20 miles were completed, and it followed that a very large amount of money was and must always be locked up until the work was completed. Of course as they got nearer to the end of their construction work that amount of locked-up capital would gradually be reduced. To-day the amount of that locked-up capital in construction and in stores was not less than £700,000. They had also undertaken some works which were going to be very expensive, and therefore they had gone to the "A" and "B" bondholders and asked them to increase those bonds. The amount they were asking was £500,000 of each class. The idea of getting the increased issuing powers was that they might be able to arrange to deposit those bonds as security against loan. At the present time the Northern lines in their incomplete form were providing the interest for the "A" and

while they were paying a small dividend came from the Southern lines, which by arrangement, sanctioned by the Philippine Government, had to pay a fixed percentage on the cost of the terminals, so on this extra amount they would have to pay their share, which would be profit to the Northern. It would have to be remembered that Manila was going to be a very important terminus. They would have the whole of their 820 miles of line when constructed centred there. Already, also, Mr. Higgins was writing home urgently to send out more rolling stock as he could not compete with the traffic with what he had. The Chairman then moved the adoption of the report and accounts. This was seconded by Admiral Sir Cyprian A. G. Bridge, G.C.B., and carried unanimously.

Prior to the foregoing meetings of the holders of the "A" debenture bonds and debenture stock, and the holders of the "B" debenture bonds and debenture stock of the Manila Railway Company (1909), Limited, were held for the purpose of considering, and, if thought fit, passing extraordinary resolutions (a) sanctioning the issue by the company of

debenture stock, in addition to the £2,000,000 each of the "A" and "B" debenture bonds, or debenture stock, which have been, or can be, issued without the sanction of the trustees; (b) consenting to the issue by the company of £250,000 each of additional "A" and "B" debenture bonds, or debenture stocks, to rank *pari passu* respectively with the £2,250,000 of "A" and "B" debenture bonds, or stocks, authorised under the provisions of the trust deed and the supplemental trust deed; and (c) agreeing to the variations in the provision of the said trust deed and supplemental trust deed necessary to effect the above purposes, by extending the "B" debenture bonds and stocks.

Mr. C. J. Cater Scott (the chairman of the company) presided, by virtue of nomination by the trustees. The Secretary (Mr. J. Mackenzie) having read the notice convening the meeting,

the meeting would stand adjourned to three weeks from time and place.

## RHODESIA RAILWAYS TRUST.

Rhodesia Railways Trust assisted to finance it. The Rhodesia Railways, Ltd., earned more than sufficient to meet its annual requirements, and the surplus was paid over to the Rhodesia Railways Trust. As regarded the Rhodesia Railways, Ltd., the figures for the six months ended March 31 last showed that if the traffic continued at its present volume that company ought to show a slightly better result during the present year than was shown during the year 1911-12. The figures for the Mashonaland Railway showed that an even greater improvement was taking place in the position of that company, and, so far as one could judge from their unaudited figures for the first six months of the present railway financial year, the final results of the operations of these two companies should be as good as they were in the year ended September 30, 1911, which was their record year. Since the last meeting he had visited Rhodesia and had travelled over the greater part of their system. In spite of temporary drawbacks, it was impossible not to be struck by the increased development which was so conclusively proved by their increases in traffic. This increase carried with it claims for increased accommodation on the one hand and for reduced rates on the other. To meet the first, expenditure was being constantly incurred. With regard to rates reductions, they were actively carrying out the policy he had more than once mentioned. In addition to the reductions made during Mr. Birchenough's visit to Rhodesia, and in addition to various reductions upon certain articles which were made monthly almost, an important series of reductions, the result of discussions in Rhodesia between Mr. Ross and himself, had been sanctioned, many of which would, they hoped, have the effect of reducing the daily cost of working in mines, while others, it was hoped, would reduce the cost of provisions in Bulawayo. He could only repeat their belief that by a policy of reducing rates wherever they saw a reasonable prospect of increased traffic they should at once secure the stability of their own position and promote the development of Rhodesia. In regard to the balance-sheet at March 31 last, he said that such financial assistance as the Mashonaland Railway Company had required had been provided by the trust out of the funds coming to them from the Rhodesia Railways, Ltd., in repayment of that company's debt. Consequently the Mashonaland Railway Company had not required to call upon the Chartered Company for advances, so that the option which the Chartered Company would have on the trust's issued capital had not been brought into existence. The Rhodesia Railways, Ltd., was paying on its debt to the trust at a greater rate than the Mashonaland Railway Company was increasing its debt to the trust. Although the trust were under no obligation to repay the railway companies, it was in the shareholders' interest that they should give them such financial assistance as they were able to afford, and this had been their practice. He had been in possession of the necessary facts, and he had told him, therefore, that this was one of the best use of the

to receive from the railway company a grant of £100,000

territory in which development was already starting in progress, the shareholders would make it their duty to give various directions in which the trust could assist their development, in certain cases, of branch lines and expanding



districts in Rhodesia in which the stage of settlement and the conditions of industry justified a railway connection with the main system, so as to increase the volume of traffic carried by the railway companies. Then there was the question of the equipment of the system with locomotives and rolling-stock. The two railway companies had been able to make arrangements with the Beit railway trustees, and had obtained a large quantity of rolling stock on the hire-purchase system on extremely favourable terms, but as traffic increased further equipment would no doubt be required. Then there was the Port of Beira, through which a large proportion of the railway traffic passed. Much better facilities were required for dealing with the traffic there, and considerable expenditure would have to be undertaken at the port. The time had now arrived when they could take more active steps to advance the prosperity of their railways than had hitherto been possible. The shareholders must always remember that the railway system of a great country like Rhodesia was one calling for large capital expenditure. This capital expenditure they could not be expected altogether to provide for themselves, and he was sure the shareholders would agree that the surest way of attracting it upon reasonable terms was to show that the existing railway system was a sound and solvent concern, and this a careful consideration of the trust's position as a whole for the last four years was eminently calculated to prove. To have a real picture of the position they would have to consider the Rhodesian Railways Company and the Mashonaland Railway Company as a single enterprise, and not merely analyse the accounts of the separate companies. If they did this they would find it an enterprise growing in strength, and stability equal to the calls that were made upon it and of providing for those it was likely to be called upon to meet. The report was adopted.

**Costa Rica Railway.** At the annual meeting in London, on Wednesday, Lord St. Davids, who presided, said that they had read out a further £7,000 prior mortgage debentures, making a total paid off to date of £71,000 out of £80,000, while the company's investments stood at £1,000,000, of £250,000 more than last year. They had read out their monthly rental under their agreements, £2,400 per month, and the rest of the dividends had brought in £8,500. They would get the same dividend as last year, £100,000, but the interest carried forward £7,000 was £2,500 more. He had heard from the Northern Company's directors saying the property on the line, and that the shareholders had acquired a large holding of shares, but he was not obtaining information on the subject. The report was adopted.

**Beira Junction Railway.** At the annual meeting in London on Monday, Mr. H. T. A. L. Jones, who presided, said that they had been a fortnight at the receipts and in an increase in expenditure, but it was not in Southern Rhodesia, and he was sure the directors would be satisfied. The debt balance of the company was £1,000,000, and the dividend was £2,000,000, after deducting £1,000,000 for the interest on the £2,000,000, and £1,000,000 for the interest on the £1,000,000, and £1,000,000 for the interest on the £1,000,000. The report was adopted.

**Bengal-Dumraon Railway.** At the annual meeting in London on Monday, Mr. H. T. A. L. Jones, who presided, said that they had been a fortnight at the receipts and in an increase in expenditure, but it was not in Southern Rhodesia, and he was sure the directors would be satisfied. The debt balance of the company was £1,000,000, and the dividend was £2,000,000, after deducting £1,000,000 for the interest on the £2,000,000, and £1,000,000 for the interest on the £1,000,000, and £1,000,000 for the interest on the £1,000,000. The report was adopted.

**Great Northern Railway.** At the annual meeting in London on Monday, Mr. H. T. A. L. Jones, who presided, said that they had been a fortnight at the receipts and in an increase in expenditure, but it was not in Southern Rhodesia, and he was sure the directors would be satisfied. The debt balance of the company was £1,000,000, and the dividend was £2,000,000, after deducting £1,000,000 for the interest on the £2,000,000, and £1,000,000 for the interest on the £1,000,000, and £1,000,000 for the interest on the £1,000,000. The report was adopted.

**Buenos Ayres Midland Railway.**—The directors have recommended the preference shareholders to accept dividends in respect of each of the three years ending June 30, 1914, 1915, and 1916, at the rate of 3 per cent. per annum only, and in respect of the year ending June 30, 1917, and each subsequent year, at the rate of 4 per cent. per annum only in lieu of the present 5 per cent. per annum. They state, in regard to the projected amalgamation of the Buenos Ayres Great Southern and Buenos Ayres Western Railways, that these two companies hold more than four-fifths of the ordinary share capital of the Midland Company, and under an agreement dated December 30, 1908, undertake the working and management of the line on terms which, in effect, guarantee the interest on the debenture stock. The rent received under the agreement has hitherto been insufficient to meet such interest, and the two companies have provided substantial sums to make good the deficiency, which they are entitled to be recouped out of future profits before the preference shareholders, and still less the ordinary shareholders, can receive any dividend. Some years must elapse before the preference shareholders can, under the present arrangement, receive any dividends, and as the preference dividend is non-cumulative, the dividends passed will be absolutely lost to them. They will give up their right to be repaid out of future profits any sums provided by them up to the present, and agree for the future to pay a rent sufficient to meet the debenture interest and all other income charges, and to have on an annual balance of £25,000 up to June 30, 1916, and thereafter £50,000, available for paying dividends on the share capital of the Midland Company. In return for this, should the net earnings of the line at any time exceed the rent so agreed to be paid by them, they will be entitled to the excess. In view of their large interest in the ordinary shares, they stipulate that the dividends on the preference shares shall be reduced to 3 per cent. per annum from July 1, 1913, to June 30, 1916, and thereafter to 4 per cent. per annum, such fixed dividends to be payable on January 1 and July 1 in each year. This will permit of dividends at similar rates being paid upon the ordinary shares.

## DIVIDEND ANNOUNCEMENTS.

**SHREFFIELD DISTRICT RAILWAY.**—At the rate of 2 per cent. per annum on the ordinary shares. A year ago the dividend was at the rate of 1½ per cent.

**VALE OF GLAMORGAN RAILWAY (July 25).**—At the rate of 4½ per cent. per annum. A year ago the dividend was at the same rate and £529 was carried forward.

**LEEDS AND BRISTOL RAILWAY.**—The directors recommend that an interim dividend be declared at the rate of 4½ per cent. per annum on the consolidated and preference stocks payable on July 31.

**ALEXANDRIA DOCKS AND RAILWAY.**—At the rate of 4½ per cent. per annum on the A and B preference stocks for the six months to June 30, leaving a balance of £22,400. The balance for the corresponding period last year was £12,500.

**COAST RAILWAY AND SOUTH COAST RAILWAY (July 24).**—At the rate of 3 per cent. per annum. For the first half of 1912 the dividend was at the rate of 3½ per cent.; £800 was placed to locomotive renewals, and £2,391 was carried forward.

**CLONKILTY EXTENSION RAILWAY (July 24).**—At the rate of 2 per cent. per annum on the ordinary stock after providing £100 for general purposes, carrying forward £146. A year ago the dividend was at the same rate and £131 was carried forward.

**DUBLIN AND SOUTH DUBLIN RAILWAY (July 24).**—Interim dividends on the consolidated preference stock at the rate of 4 per cent. per annum, and on the consolidated ordinary stock at the rate of 1 per cent. per annum for the half-year ended June 30.

**GREAT NORTHERN RAILWAY (July 24).**—At the rate of 3 per cent. per annum on the ordinary capital, giving for the past half-year 2 per cent. to the preferred converted ordinary stock, and 3 per cent. to the "B" stock. A year ago the dividend was at the same rate, and £93,145 was carried forward.

**LIVERPOOL OVERHEAD RAILWAY.**—The directors have declared interim dividends at the rate of 1 per cent. per annum on the preference shares, and 2½ per cent. per annum on the ordinary shares (for the half-year), against 2 per cent. per annum for the corresponding period of last year. The dividend will be paid on August 1.



## PARLIAMENTARY.

## PROGRESS OF RAILWAY BILLS.

## Post Office (London) Railway.

The Bill for the London Post Office Railway, which was introduced into the House of Commons on Wednesday last, is a report on it which states that the Committee, while satisfied that ample provision has been made for expansion of mail traffic on present lines, have borne in mind the fact that the data from the experience of other countries in the handling of mails are very limited, and that the present scheme is therefore of necessity somewhat experimental in character. The Committee feel some doubt whether improvements on certain matters of important detail may not still be made. They have specially in mind the sharpness of the proposed curves, which permanently limits the size of the rolling stock that can be used, and the possibility of extending the methods for the automatic handling of mails at the railway termini. The Committee are anxious that works involving so large an expenditure should, so far as possible, be free from risk of becoming obsolete, and, while not professing to make any specific recommendation of a technical kind, express the hope that within the powers granted by the Bill these matters will have the careful consideration of the Department before the engineering details of the scheme are finally settled.

The Bill came before the House of Commons for third reading on Thursday night, when Mr. Peto (Devizes-U.) raised doubts as to the wisdom of proceeding with the construction of the railway according to the plans proposed, and in support of that pointed to the special report of the Committee on the Bill. Mr. H. Samuel (Postmaster-General) assured Mr. Peto, in reply, that the report was receiving full consideration. He also said that the consulting engineer for the railway, Mr. Dalrymple Hay, was one of the greatest experts in the country on the subject of tube railways. He (Mr. Samuel) would, however, also take the advice of other outside independent engineers. The Bill was then carried by 110 to 10.

## North British Railway.

This Bill, which has already been passed by the House of Lords, was considered by a Committee of the House of Commons on Wednesday last. Sir Henry Lowry, in the course of the debate, pointed out that the Bill, as introduced, was not applicable to the North British Railway, and this part was not now opposed, the competing bill promoted by Louthian coal-owners having been rejected by the Lords' Committee. Mr. Balfour Browne, in reply, said that the Bill was not intended to apply to the North British Railway, and that the Bill was not intended to apply to the North British Railway.

The Bill was then considered by the Lords' Committee, and which entitled the colliery owners in the Louthian to supply their own wagons for the coal traffic from the mines to Leith and Granton. If the colliery owners were to supply their own wagons, the Bill would be of no use. The Bill was objected to by the Caledonian and Glasgow and South Western Railway Companies. The objection of the Caledonian was that Clause 6 altered the general law, but there was no general law on the matter. On the North British and the Caledonian systems the railway companies provided wagons, and also allowed traders to provide wagons. That method had led to friction, but the present clause was satisfactory to the traders concerned. The Caledonian Company objected to the clause because it might form a precedent for other districts. His reply was that it at any time it was sought to apply a similar arrangement in Fifehire, Lanarkshire, or Stirlingshire that could not be done without an Act of Parliament. Each case should be judged on its merits. The Bill was then carried by 110 to 10.

## Responsibility to Passengers in France.

The Bill for the French Railway Law, which was introduced into the House of Commons on Wednesday last, is a report on it which states that the Committee, while satisfied that ample provision has been made for expansion of mail traffic on present lines, have borne in mind the fact that the data from the experience of other countries in the handling of mails are very limited, and that the present scheme is therefore of necessity somewhat experimental in character. The Committee feel some doubt whether improvements on certain matters of important detail may not still be made. They have specially in mind the sharpness of the proposed curves, which permanently limits the size of the rolling stock that can be used, and the possibility of extending the methods for the automatic handling of mails at the railway termini. The Committee are anxious that works involving so large an expenditure should, so far as possible, be free from risk of becoming obsolete, and, while not professing to make any specific recommendation of a technical kind, express the hope that within the powers granted by the Bill these matters will have the careful consideration of the Department before the engineering details of the scheme are finally settled.

## REPORT ON AN EDINBURGH COLLISION.

EDINBURGH, July 24. (By Special Telegram.)

Major Pringle has presented to the Board of Trade his report on the result of his inquiry into the cause of the collision between two light engines, which occurred about 5.1 p.m. on April 10, near Waverley East Junction, Edinburgh, on the North British Railway. The first engine was standing at the down home signals, awaiting permission to proceed, when the second engine was authorised to enter the same section and struck it. Both drivers were injured, one of them seriously, and a goods guard, who was riding on the footplate of the second engine, was also badly knocked about.

Major Pringle finds that "the collision was undoubtedly caused by a mistake or misunderstanding on the part of the signalmen at one or other of the two signal-boxes—Waverley East Junction and Abbeyhill Junction. But the men's statements on the main point at issue are so contradictory that the evidence is insufficient to prove which of them were at fault. . . . I have, after careful consideration, formed the opinion that the second light engine followed the first so closely that the signalmen at Abbeyhill Junction either failed to replace the signals to danger behind the first engine before the second arrived and passed them, or became confused between the two engines, and allowed the second to enter the section towards Waverley East Junction without putting it into block. I am satisfied, however, that there was no wilful breach of the regulations. The two signal boxes concerned in this case are busy centres of traffic. At Waverley East Junction there are 251 working levers, four telephones, two telegraph and four block instruments. The latter deal with the four running lines of road eastward to Abbeyhill Junction. There are four signalmen on duty, who are relieved every eight hours, and two train register lads divide the duty from 6 a.m. until midnight. During the 24 hours preceding this accident 282 running movements of trains or light engines were dealt with on the two up lines to Abbeyhill, and 273 on the down lines from Abbeyhill. In addition, all the shunting movements, which are very numerous, in connection with the working of the east end of Waverley Station are controlled from this signal-box.

"At Abbeyhill Junction there are 41 working levers, two telephones, two telegraph and eight block instruments. Between 6 a.m. and midnight there are two signalmen employed and one train register lad; from midnight to 6 a.m. one signalmen and one train register lad.

"The two down lines are track circuited for a length of about 100 yards in rear of the Abbeyhill Junction starting signals, and there are a number of mechanical clearance bars on the up lines at the west end of Calton Tunnels to safeguard shunting movements which have to be made into the tunnels. But in view of the difficulties caused by the tunnels, and the heavy nature of the traffic, I strongly recommend the company to improve the safety conditions by the provision of track circuit work on the four roads through Calton North and South Tunnels, combined with the necessary control of the signals."

## RAILWAYMEN'S LONG HOURS DUE TO FOG.

A White Paper issued on July 21 contains a return relating to the excess of twelve hours a day worked during February, 1913, by certain classes of railway servants, and instances of resumption of duty after such periods with less than nine hours' rest. It is the custom of the Board of Trade, in calling for the return, to specify the particular month for which details are asked. The return deals altogether with 116,015 servants of the classes specified, who worked during the month of February a total of 2,667,956 days, and the number of days on which the men were on duty for periods exceeding twelve hours by one hour and upwards amounted to 60,182, or 2.26 per cent. of the total days worked. This figure is considerably in excess of the corresponding figure for recent returns, which did not, however, relate to winter months, and are therefore not strictly comparable. There has been a large increase of instances of long hours in the case of the men working goods trains. The White Paper gives explanations by some of the companies to account for the increase. In the majority of cases the increase is attributed to the severe and continuous fogs which prevailed in the North of England and in South Wales during part of the month of February.



## GENERAL NEWS.

## THE REBUILDING OF BAKER STREET STATION.

in order to give access to the Bakerloo Underground station. Mr. Oswald G. Drury, the Company's engineer, has supervised the operations, which have been conducted without interference with the six hundred trains that pass daily through the station. In order to provide increased accommodation a considerable portion of the tunnel has been reconstructed, and two sewers have been diverted. Forty thousand tons of earth have been excavated and carted away, and nine thousand tons of concrete have been used for foundations and walls. The building is of steel frame construction. The two new lines which the Metropolitan have laid down give residents of Harrow, Ruimsip, Uxbridge, Pinner, Northwood, Rickmansworth, Chorley Wood, Amersham, Great Missenden, Wendover, and Aylesbury a clear run in fast trains right through to Baker Street and the City without changing. The station has a frontage of 400 ft. to Marylebone Road, and the appearance of the new

## NATIONAL UNION OF FREE WORKERS.

The first statutory meeting of the National Society of Free Workers was held on July 18 and 19 at Sheffield, when a number of railwaymen took part in the proceedings.

Mr. Mark Judge, of London, presided, and in his opening address recalled that there was something very appropriate in the first general meeting being held in Sheffield. In the sixties Sheffield was the scene of those trade union outrages which led to the appointment of the Royal Commission on the Right of Combination and Freedom of Non-unionists. The report of that Commission gave to the trade unions their Charter, and all trade unionists should take to heart the following words from that report:—"With regard to the general question of the right of workmen to combine together for determining and stipulating with their employer the terms on which they will consent to work for him, we think that full liberty should be left to all other workmen to undertake the work which the parties combining have refused, and no obstruction should be placed in the way of the employer resorting elsewhere in the search of a supply of labour. It is the more important that the law should protect the non-unionist workman in his right freely to dispose of his labour as he thinks fit, because, standing alone, he is the less able to protect himself."

The railway strike of August, 1911, was entered upon in disregard of all contracts, and led to the appointment of another Royal Commission, and though the free workers were only admitted as witnesses, they put their case so forcibly that the representatives of the companies and of the trade unions were unanimous in agreeing that: "To make any scheme of conciliation effective there should be no organised stoppage of work until the conciliation machinery has been exhausted. No encouragement or assistance should be given to either side refusing to abide by the settlements during the period of their continuance, and full and ample protection should be given to those who desire to observe them." The Commissioners further say: "Men have a right to determine their engagements by giving a lawful notice, but in the exercise of their freedom in this respect they should not, in our opinion, be permitted to incite or coerce by threats or any form of intimidation men who desire to give their labour." Nothing could be more satisfactory than the foregoing extracts to the free railway workers who, before and during the strike, had to submit to the receipt of threatening letters, in which they were given a "warning" that if they should still remain outside the union they would not be regarded as "fit fellow-workers."

On the question of "recognition" the recommendations of the Commissioners were reasonable and fair to all parties. They said: "We think that with their great responsibilities the companies cannot and should not be expected to permit any intervention between them and their men on the subjects

## AUGUST HOLIDAY TRAVELLING FACILITIES.

Of the various means resorted to for making known the holiday facilities offered by the railways, the newspapers apparently have come in for the largest use. A perusal of the various journals day by day impresses the reader with the fact that one railway company means to be known as the most persistent advertiser, and that another is very close up to the leader. The importance of the advertising department is demonstrated in the following remarks attributed to Mr. E. A. Evans, the chief of the publicity office of the Great Eastern Railway, in the report of an interview published in the summer number of that company's magazine: "Advertising and publicity work has developed into a veritable science. One has not only to know what to advertise, but how and when to advertise it. The black and white poster or handbill announcing facilities is of little use nowadays; attractive coloured picture posters, descriptive pamphlets, and—what is most important—articles or references in the newspapers are what is needed. That the advertisements are productive of good is proved by the enormous number of enquiries resulting therefrom—as many as 700 in a single day."

Appended will be found an outline of the arrangements of which we have been notified, and mention should be made that detailed programmes and attractive guide books are obtainable at the stations and town offices of the various companies. These publications are also forwarded post free on application.

PERSONAL.

Mr. J. H. Estill, the chief of the Bureau of Plant Industry, U. S. Department of Agriculture, has been sent to the States of Virginia, North Carolina, and South Carolina to ascertain the extent of the damage to the cotton crop. He is accompanied by H. C. Brown, Chief of the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture.

easy one, because they and he had been absolutely united in  
as they found it, and they, having determined on the course

Lady Renshaw also replied, thanking the directors for their

**New London and North Western and Caledonian Rolling Stock** - A large company witnessed on July 15 the departure from Princes Street Station, Edinburgh, of the first new train constructed by the London and North Western Railway Company for service on the West Coast route between England and Scotland. The vehicles include cattle, cars and baggage and dining cars.

[illegible]

**THE UNIVERSITY OF CHICAGO**

WILLIS L. GILBERT & SONS,  
MILLS BUILDING, CORNER NEWARKS, BRISTOL.

**MIDLAND WORKS, BIRMINGHAM,**  
and **Abbey Works, Shrewsbury.**

[illegible]





## OFFICIAL TRAFFIC RETURNS.

Barry.			Great Northern (Ireland).			Metropolitan.		
Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.
Passengers, etc.	£18,285	£17,032	Passengers, etc.	1,111	1,111	Passengers, etc.	415,178	415,178
Goods, etc.	2,789,100	2,487,700	Goods, etc.	4,820	4,370	Goods, etc.	15,000	15,000
Total for week	2,789,100	2,487,700	Total for week	5,931	5,480	Total for week	430,178	430,178
Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £190			Inc. this week, £190			Inc. this week, £190		
Caledonian.			Great North of Scotland.			Metropolitan (District).		
Week ending July 20	1913.	1912.	Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.
Passengers, etc.	£55,100	£55,400	Passengers, etc.	28,560	28,560	Passengers, etc.	115,000	115,000
Goods, etc.	2,789,100	2,487,700	Goods, etc.	4,820	4,370	Goods, etc.	15,000	15,000
Total for week	2,789,100	2,487,700	Total for week	5,931	5,480	Total for week	430,178	430,178
Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £190			Inc. this week, £190			Inc. this week, £190		
Cambrian.			Great Southern and Western.			Midland.		
Week ending July 20	1913.	1912.	Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.
Passengers, etc.	£151,659	£151,659	Passengers, etc.	£52,941	£52,941	Passengers, etc.	£115,000	£115,000
Goods, etc.	2,789,100	2,487,700	Goods, etc.	4,820	4,370	Goods, etc.	15,000	15,000
Total for week	2,789,100	2,487,700	Total for week	5,931	5,480	Total for week	430,178	430,178
Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £190			Inc. this week, £190			Inc. this week, £190		
Central London.			Great Western.			Midland Great Western of Ireland.		
Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.
Passengers, etc.	£115,000	£115,000	Passengers, etc.	£162,000	£157,000	Passengers, etc.	£5,759	£5,759
Goods, etc.	2,789,100	2,487,700	Goods, etc.	4,820	4,370	Goods, etc.	15,000	15,000
Total for week	2,789,100	2,487,700	Total for week	5,931	5,480	Total for week	430,178	430,178
Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £190			Inc. this week, £190			Inc. this week, £190		
City and South London.			Highland.			North British.		
Week ending July 19	1913.	1912.	Week ending July 20	1913.	1912.	Week ending July 19	1913.	1912.
Passengers, etc.	£115,000	£115,000	Passengers, etc.	£10,653	£10,653	Passengers, etc.	£67,600	£67,600
Goods, etc.	2,789,100	2,487,700	Goods, etc.	4,820	4,370	Goods, etc.	15,000	15,000
Total for week	2,789,100	2,487,700	Total for week	5,931	5,480	Total for week	430,178	430,178
Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £190			Inc. this week, £190			Inc. this week, £190		
Dublin and South Eastern.			Hull and Barnsley.			North Eastern.		
Week ending July 18	1913.	1912.	Week ending July 20	1913.	1912.	Week ending July 19	1913.	1912.
Passengers, etc.	£115,000	£115,000	Passengers, etc.	£10,653	£10,653	Passengers, etc.	£97,773	£97,773
Goods, etc.	2,789,100	2,487,700	Goods, etc.	4,820	4,370	Goods, etc.	15,000	15,000
Total for week	2,789,100	2,487,700	Total for week	5,931	5,480	Total for week	430,178	430,178
Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £190			Inc. this week, £190			Inc. this week, £190		
Furness.			Lancashire and Yorkshire.			North London.		
Week ending July 20	1913.	1912.	Week ending July 20	1913.	1912.	Week ending July 20	1913.	1912.
Passengers, etc.	£115,000	£115,000	Passengers, etc.	£15,996	£15,996	Passengers, etc.	£53,436	£53,436
Goods, etc.	2,789,100	2,487,700	Goods, etc.	4,820	4,370	Goods, etc.	4,755	4,535
Total for week	2,789,100	2,487,700	Total for week	5,931	5,480	Total for week	£238,293	£229,956
Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £190			Inc. this week, £190			Inc. this week, £190		
Glasgow and South Western.			London, Brighton and South Coast.			North Staffordshire.		
Week ending July 19	1913.	1912.	Week ending July 20	1913.	1912.	Week ending July 20	1913.	1912.
Passengers, etc.	£33,700	£33,700	Passengers, etc.	£67,345	£67,345	Passengers, etc.	£5,400	£5,400
Goods, etc.	2,789,100	2,487,700	Goods, etc.	4,820	4,370	Goods, etc.	14,500	14,500
Total for week	2,789,100	2,487,700	Total for week	5,931	5,480	Total for week	£14,900	£14,900
Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £190			Inc. this week, £190			Inc. this week, £190		
Great Central.			London and North Western.			Rhymney.		
Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.	Week ending July 22	1913.	1912.
Passengers, etc.	£30,000	£29,400	Passengers, etc.	£16,757	£16,095	Passengers, etc.	£30,000	£30,000
Goods, etc.	73,900	67,100	Goods, etc.	4,820	4,370	Goods, etc.	2,078	2,078
G.C. proportion of Joint Lines	£103,500	£96,500	Total for week	£21,577	£20,465	Total for week	£32,078	£32,078
Total for week	£123,900	£115,300	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Aggregate for 29 weeks	1,111	1,111	Inc. this week, £2,460			Inc. this week, £2,460		
Inc. this week, £2,500			Inc. this week, £2,460			Inc. this week, £2,460		
Great Eastern.			London and South Western.			South Eastern and Chatham.		
Week ending July 20	1913.	1912.	Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.
Passengers, etc.	£75,900	£75,900	Passengers, etc.	£169,000	£162,000	Passengers, etc.	£30,000	£30,000
Goods, etc.	2,789,100	2,487,700	Goods, etc.	4,820	4,370	Goods, etc.	2,078	2,078
Total for week	2,789,100	2,487,700	Total for week	5,931	5,480	Total for week	£32,078	£32,078
Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £3,400			Inc. this week, £4,000			Inc. this week, £4,000		
Great Northern.			London and North Western.			South Eastern and Chatham.		
Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.
Passengers, etc.	£63,700	£61,700	Passengers, etc.	£169,000	£162,000	Passengers, etc.	£30,000	£30,000
Goods, etc.	73,900	75,300	Goods, etc.	4,820	4,370	Goods, etc.	2,078	2,078
Total for week	£137,600	£137,000	Total for week	5,931	5,480	Total for week	£32,078	£32,078
Aggregate for 29 weeks	3,526,300	3,231,100	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £2,400			Inc. this week, £2,400			Inc. this week, £2,400		
Great Northern.			London and South Western.			South Eastern and Chatham.		
Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.	Week ending July 19	1913.	1912.
Passengers, etc.	£63,700	£61,700	Passengers, etc.	£169,000	£162,000	Passengers, etc.	£30,000	£30,000
Goods, etc.	73,900	75,300	Goods, etc.	4,820	4,370	Goods, etc.	2,078	2,078
Total for week	£137,600	£137,000	Total for week	5,931	5,480	Total for week	£32,078	£32,078
Aggregate for 29 weeks	3,526,300	3,231,100	Aggregate for 29 weeks	1,111	1,111	Aggregate for 29 weeks	1,111	1,111
Inc. this week, £2,400			Inc. this week, £2,400			Inc. this week, £2,400		

Norms and Expectations for the Teacher in the Classroom. The teacher is expected to be a professional who is responsible for the learning and development of the students. The teacher is expected to be a role model for the students and to be a member of the school community. The teacher is expected to be a leader in the classroom and to be a collaborator with the other teachers in the school. The teacher is expected to be a communicator with the students, parents, and the community. The teacher is expected to be a reflective practitioner who is able to evaluate their own practice and make changes as needed. The teacher is expected to be a lifelong learner who is always seeking to improve their skills and knowledge. The teacher is expected to be a person who is passionate about their work and who is committed to the success of their students.







# SUMMER HOLIDAYS

Fast Excursions on certain days every week during the summer from London (Waterloo, &c.) for various periods.



To the PRINCIPAL RESORTS in

## DEVON, CORNWALL, THE SUNNY SOUTH, etc.

TO LONDON	.. .. .	from	20 0	ISLE OF WIGHT	.. .. .	9 6	Week-End and Tourist Tickets
TO LONDON	.. .. .		22 0	TO LONDON	.. .. .	8 3	
DARTMOOR	.. .. .		19 0	TO LONDON	.. .. .	11 0	
E. DEVON COAST	.. .. .		14 6	TO LONDON	.. .. .	8 0	RESTAURANT CAR TRAINS.
	.. .. .		11 0		.. .. .	6 0	

### RAIL, RIVER and SEA TRIPS

NORMANDY.

15-Day Tours from Waterloo, via Southampton

BRITTANY.

TO LONDON	.. .. .	20 0	TO LONDON	.. .. .	25 6
TO LONDON	.. .. .	22 0	TO LONDON	.. .. .	26 4
TO LONDON	.. .. .	19 0	TO LONDON	.. .. .	29 0
TO LONDON	.. .. .	14 6	TO LONDON	.. .. .	31 0
TO LONDON	.. .. .	11 0	TO LONDON	.. .. .	24 6
	.. .. .		TO LONDON	.. .. .	20 0

H. A. WALKER.

# FURNESS RAILWAY.

:: The English Lakeland. ::  
The Paradise of Tourists.

TOURISTS' WEEKLY TICKETS (ALSO COMBINED CYCLE TICKETS) are issued from MAY 1st to SEPTEMBER 30th.

At considerably below ordinary fares. Available for an Unlimited Number of Journeys for Seven Days.



Swift, Lady Evelyn, with passengers.

The Popular and Fast Paddle Steamers, "Lady Evelyn" and "Lady Mags," sail daily, from Whitsuntide to the end of September, between FLEETWOOD and BARROW, forming a connecting link between BLACKPOOL and the LAKES.

## FURNESS ABBEY HOTEL

Whitsuntide to the end of September.

Barrow-in-Furness, Lancashire.

ALFRED A. S. T.



Swift, Lady Evelyn, with passengers.

### 20 Circular Rail, Coach and Steam Yacht Tours,

WINDERMERE, CONISTON, RYDAL, GRASMERE, THIRLMERE, ULLSWATER, WASTWATER, AND GEORGE ROMNEY'S HOME, &c.

TOURS through Lakeland PAMPHLETS, by post, sent at the Office of the Furness Railway, or by post, sent at the Office of the Furness Railway.



Swift, Lady Evelyn, with passengers.

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FOR LOCOMOTIVES.

Increases power by Decreasing friction.

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**EXPERT Railway Accounting Wanted.**

### EXPERT Railway Accountant Wanted

monials, should be sent to Dr. C. C. Wang, Chinese Legation, London, W., before August 15. Correspondence should be sent to the same address.

OFFICIAL ADVERTISEMENTS for insertion on the current week's issue should be received by 6 p.m. on Friday.

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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, AUGUST 2, 1913.

No.

## PRINCIPAL CONTENTS.

## FURTHER RAILWAY RESULTS.

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Annual Subscription post free, 25 shillings.

All communications for the following issue should be received not later than 6 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

Money Orders, Cheques, etc., should be drawn in favour of THE RAILWAY TIMES, and sent by crossed "National Bank." Telegraphic Address: "Altimetry, London." Telephone No. 2948 (Gerrard offices) 12, Norfolk Street, London, W.C.

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interim dividend question, and, on the other hand, the growing urgency of interim statements showing gross receipts, working expenses, and net revenue for the first half of the year. We are glad to note that the Hull and Barnsley Company has not only declared an excellent dividend, but has disclosed its balance carried forward, so that the exact position is known to the shareholders up to date. Its ordinary dividend will be at the rate of 3 per cent. per annum against 1 per cent. per annum, and the balance carried forward is nearly £32,000, against £24,000 a year ago. The extra distribution to the stockholders represents a sum of about £33,000, whereas the published increase in receipts was £71,500, so the result is quite satisfactory. The North Staffordshire Company has announced an interim dividend of 4 per cent. per annum

of about £11,000 against £8,000. An official note explains that the apparently large increase in traffic receipts is due to comparison with the coal strike of 1912, and that from one cause and another there has been a large increase in working expenses. The Great North of Scotland Company was not only confronted with the difficulty of annual accounts, but also with the change in the date of its financial year, which will now end on December 31, instead of July 31. The directors, however, have taken the wise course of paying the deferred ordinary stockholders an interim dividend, and this distribution will be at the rate

a year ago, but no details are supplied. The Highland Company, which is in an exactly similar position, has decided to pay no interim dividend upon its ordinary stock, although a year ago the distribution of 1½ per cent. per annum was made for the first half of the year. No figures are supplied, but a rather laboured official explanation is given to the effect that the inclusion of January in place of July in the first half of the year will yield much less revenue to the Highland Company, and it has not been possible to prepare any comparative figures. It is equally true, of course, that the inclusion of July in place of January in the second half of the year will improve its results to a corresponding extent, so that on the year nothing will be lost, and the decision to pay no interim

dividend no doubt felt this, for in their official statement they say: "The results of the year will be at the rate of 2½ per cent. per annum, which is equal to those of last year." The Brighton Company, which

will be at the rate of 2½ per cent. per annum, which is







adjusted to meet it, so that the position is one of rounded equilibrium. The demand for money in connection with the end of the month has been strong, and a certain amount was borrowed from the Bank for a week at 5 per cent. The outlook for the immediate future is serene and the market is wonderfully unperturbed, considering that a Bank Rate rising to over 5 per cent. during December and January next is looked upon as more than likely. On the Stock Exchange an improved tone was observable on the opening of the new account. Members were expressing themselves satisfied with the trend of events in China, Mexico, and the Balkans, and though, as a matter of fact, nothing is finally settled in any of those places, it does seem that taste for disturbances is lying down in all of them. The betterment in prices has been due chiefly to the desire of those who had sold short of the stock to make their books even before the holidays, and it would be a mistake to set too much hope on this natural desire of operators to insure themselves a vacation free from financial anxiety. As a matter of fact, the factors that have brought about the startling decline in stock exchange valuation of recent months are still in full operation, and until we have substantial reasons for thinking, or feel has been made of new issues at high rates of interest being thrust upon the markets by Governments, Corporations and companies alike, there can be no extensive sustained rise in the level of quotations.

Last Saturday the sentiment being in preparation business was even quieter than usual. The chief features were a recovery in Buenos Ayres Pacific and a rally in Mexican securities. The new account began on Monday under favourable auspices, the rates charged for carrying over being a shade less onerous than on the previous occasion. The news from South Africa was also better, and gold coming in from Brazil was a supporting factor. United States railways, assisted by an improved bank statement, contributed another source of support. So a better tone was soon discernible and Home Rails made a good advance under the lead of the heavies. The next day continued with the tide. The dividend announced by the H. & N. met fairly well at the rate of 1 per cent per month, but not more than last year; this caused a reaction in the stock and furnished a stimulant to the whole market in Home Rails. Good news was not so bright owing to the revenue statement for June, which showed a deficit of £20,000 in the gross receipts accompanied by a statement of £100,000 to working expenses. On Wednesday the Differ. Railway started in a lively tone, but owing to the heavy outflow of funds capital lent to those dependent on getting it. The dividend has been at the rate of 7 per cent. for the past eight years and before the war. The rate of interest on the loan is 10 per cent in order to enable the company to meet the high interest that will be required to pay for capital urgently needed. During the following day business slrank to

On Friday, the dividends announced by the great Western and Southern life insurance companies were added 1 to 1 1/2 to the Dow Jones Industrial Average. The distribution in each case was 1 per cent, raising the dividend back to its 1929 level, and

The movements of the week are set forth below :—

Name of Stock.	Rise.	Fall.	Name of Stock.	Rise.	Fall.
<i>British Funds.</i>			<i>American Railways.</i>		
Consols, $\frac{1}{2}$ per cent.	1	—	Aitchison Common ..	$1\frac{1}{2}$	—
Do. (acc.) $\frac{1}{2}$ per cent.	1	—	Baltimore and Ohio ..	xd	1
<i>British Railways.</i>			Chesapeake and Ohio ..	1	—
Barry Deferral ..	—	xd	Chicago Gt. Western ..	1	—
Calcutta ..	—	—	Chicago Mil. & S. Paul ..	1	—
Do. Pref. Con. Ord.	—	—	Denver & Rio Grande ..	1	—
Do. Def. Con. Ord.	—	—	Do. Preferred ..	—	—
Central London ....	—	xd	Eric Common ..	2	—
Do. Preferred ..	—	—	Do. 1st Preference ..	—	—
City and S. London ..	—	xd	Do. 2nd Preference ..	3	—
East London Con.	—	—	Illinois Central ..	—	8
Edinburgh ..	—	—	Louisville & Nashville ..	—	2
Great Eastern Pref.	—	—	Missouri Kans. & Texas ..	—	—
Gt. Nth. Pref. Con. Ord.	—	xd	New York Central ..	—	—
Do. Def. Con. Ord.	—	—	N.Y., Ont. & Western ..	—	—
Great Western ..	$1\frac{1}{2}$	—	Norfolk & Western ..	—	—
Hull and Barnsley ..	—	xd	Do. Preferred ..	—	xd
Lancashire & Yorkshire ..	—	xd	Pennsylvania ..	1	—
London, Br. & S. Coast ..	—	—	Reading Common ..	—	xd
Do. Deferred ..	—	—	Southern Pacific Com.	—	$\frac{1}{2}$
London Chat. & Dover ..	—	—	Southern Common ..	—	—
London & N. Western ..	2	—	Do. Preferred ..	—	—
London & S. Western ..	—	xd	Union Pacific ..	—	—
Do. Def. Con. ..	$1\frac{1}{2}$	—	Do. Preferred ..	1	—
Metropolitan ..	—	xd	U.S. Steel Corp. Com.	2	—
Metropolitan District ..	—	—	Do. 7 p.c. Cum. Pref.	1	—
Midland Def. Ord.	—	xd	<i>Foreign Railways.</i>		
North British Pref. Ord.	—	—	Antofagasta Def. Ord.	2	—
Do. Def. Ord. ..	—	—	Argentine Gt. Western ..	—	—
North Eastern Cons.	—	xd	Buenos Ayres & Pacific ..	1	—
North Staffordshire ..	—	xd	Buenos Ayres Gt. Strn. 2 ..	—	—
South Eastern ....	—	xd	Buenos Ayres Western ..	1	—
Do. Deferred ..	—	—	Central Argentine ..	$\frac{1}{2}$	—
Tat. Vale ..	—	xd	Do. Deferred ..	—	—
<i>Colonial Railways.</i>			Cent. Uruguay of Mont.	—	—
Underground Electric ..	$\frac{1}{2}$	—	Cordoba Cent. Ord.	—	—
Do. $\frac{1}{2}$ p.c. Bonds ..	—	—	Do. 1st Pref. ....	—	—
Do. 6 p.c. Bonds ..	1	—	Costa Rica ..	—	2
			Cuban Central ..	—	—
Canadian Pacific ..	—	—	La Paz ..	—	—
Grand Trunk of Canada ..	—	—	Mexican Ordinary ..	$1\frac{1}{2}$	—
Do. 4 p.c. Guaranteed ..	—	—	Do. 1st Pref. ....	—	—
Do. 1st Preference ..	—	—	Do. 2nd Pref., 6 p.c. ..	—	—
Do. 2nd Preference ..	—	—	Nitrate Ordinary ..	$\frac{1}{2}$	—
Do. 3rd Preference ..	—	—	Ottoman (Smyrna to Aidin)	—	—
Do. 4th Preference ..	—	—	Un. of Havana Ord.	—	—

## BANK RETURN.

The return of the Bank of England for the week ended Wednesday, 11th June, is as follows:—

[illegible]

## Argentine Railway Amalgamation. | 1894-1900. 1031

[illegible]

**ACCELERATED BRIGHTON RAILWAY SERVICE TO THE CONTINENT.**

The London, Brighton and South Coast Railway Company have inaugurated an accelerated service to the Continent *via* Newhaven and Dieppe, the time saved as compared with the former service being no less than an hour. The acceleration is partly due to the high speed of the new turbine steamer

"Paris," which possesses the following characteristics:

saving equipment complying with the most recent Board of Admiralty pattern. The promenade deck extends the whole length of the vessel, the fore part being divided into two sections.



The 25-knot Geared Turbine Steamer "Paris" leaving Newhaven.

The satisfactory performance of the two turbine steamers, "Brighton" and "Dieppe," placed on the service in 1903 and 1905 respectively by the Brighton Company, led the French State Railways to replace their older type of vessels by two turbine steamers of similar construction, but larger and faster; these vessels, the "Newhaven" and "Rouen," and the addition to the Brighton Company's fleet of the

No. 1 hatch and extending from side to side between the boat and promenade decks is a steel screen bulkhead to protect from spray when the vessel is being driven into a head sea.

The forward deckhouse contains the first-class smoking room, and this is framed in oak, clear polished. A pair of leaded glass doors lead into a spacious domed vestibule, which is accessible from the main deck.



Main Saloon S.S. "Paris."



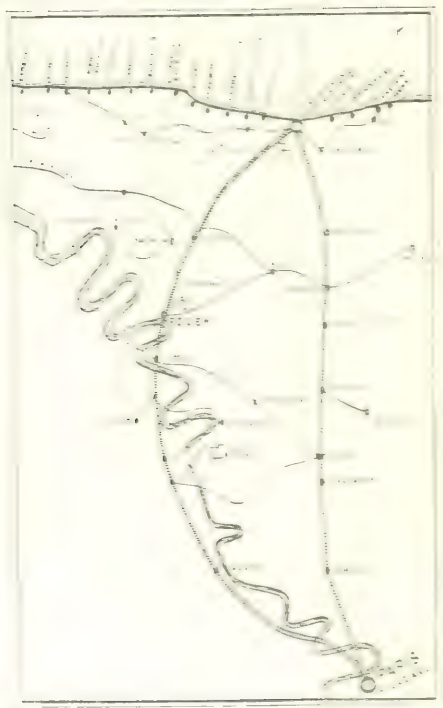
Smoking Saloon S.S. "Paris."

s.s. "Paris" give to the joint fleet a Channel steamer service unrivalled for speed and comfort.

The "Paris," in point of speed, construction and luxurious accommodation, represents the latest and finest type of passenger steamer designed for cross-channel service. Built by Messrs. William Denny Brothers, of Dumbarton, the vessel is in length between perpendiculars 300 ft. 6 in., with a

promenade deck are a number of private cabins. The main deck is the first-class dining saloon, which is a notable feature, with tops of St. Anne's marble.











Line	Steamers	Tonnage	Speed	Days
Transatlantic	4	10,000	18	10
Transatlantic	4	10,000	18	10
Transatlantic	4	10,000	18	10
Transatlantic	4	10,000	18	10
Transatlantic	4	10,000	18	10
Transatlantic	4	10,000	18	10
Transatlantic	4	10,000	18	10
Transatlantic	4	10,000	18	10
Transatlantic	4	10,000	18	10
Transatlantic	4	10,000	18	10

ness in the United States. Our various services have been well maintained, and the volume of our business has greatly increased. The addition of new tonnage owned by your company and its subsidiary concerns has given great satisfaction, not alone to our railroad friends, but to those who ship by our various lines—in fact, the expansion has been so great that we have found it desirable to appoint a manager to assist Mr. Blackiston, leaving him more time to superintend the general organisation and the lines we run from Boston, Philadelphia, Baltimore, Newport News, Norfolk, etc.

So far as our Canadian business is concerned, you will see by the establishment of a weekly service of steamers to Hull, which is yielding very satisfactory results, and the opening of our own office in Newfoundland will largely contribute to the efficiency of our general organisation. We have, as you know, our own freehold wharf and offices at Halifax, and we have now under contemplation the erection of a wharf at St. John's, Newfoundland, to provide for the larger class of steamers which we now employ in that service. The

very satisfactory. That company will own a dozen steamers when the two large steamers, exceeding 8,000 tons deadweight, which are being built on the North-East Coast have been delivered. The development of this business has in every way exceeded the anticipations of your board. That company not only owns a fleet of steamers, but has acquired two of the largest discharging elevators in the world, thus ensuring, not only for their own vessels and the vessels owned by your company, but also for the steamers entrusted to their care, the most rapid possible despatch. They have other large developments in view, which I hope I will be able, on a subsequent occasion, to refer to as being accomplished. As you will have seen from the report, your company has taken a favourable opportunity to dispose of some of its older vessels. The fleet of steamers controlled by us, including those owned by our subsidiary companies, has been maintained in a high state of efficiency, and, having regard to the additions which we have made to our reserve fund, your board has decided to take a larger measure of its own insurance.

We can, of course, only speak with any degree of certainty in regard to our own developments, and the development of those numerous companies which we entirely control but I am sure you will expect me to make some reference to the general outlook. I am glad to say that the strike which was threatened in the shipyards has apparently been averted. Such a strike would have caused considerable dislocation of trade, and, in common with other companies, our interests would have suffered. The unsettled conditions abroad, mainly owing to the war, are causing uneasiness in the minds of the investing public. The numerous invitations which have recently been made for the subscription of new issues have not been generously responded to, with the result that it leaves the financial world in a state of some uncertainty. This and the causes above-mentioned have influenced your directors in pursuing what they regard as a cautious policy, and, while not taking in any sense of the word a pessimistic view of the situation, they

proportion of their resources liquid. Freights, which ruled high in the autumn of last year, have since then fallen to a level which is satisfactory in the autumn I believe we shall again have freights on a higher basis than at present. The equipment of your company for purposes of trading was never as good as it is today, and whilst we cannot control external conditions, we can, and we will, conserve the resources of the company, so that every favourable opportunity may be taken to increase our capital. I am sure that you will find it a pleasure to you to know that the dividends from our investments so far received on account of the present year, exceed those for the corresponding period of last year, and that the steamers'

report and accounts, said he desired to associate himself with all that had been said in regard to the lamentable loss they had sustained in the death of the late chairman. He had built up a splendid business, and all those now connected with it were certain that as time went on it would increase in magnitude and importance. Their new chairman (Sir Stephen Furness) might well be proud to follow in the footsteps of his dis-

tinction of assuring him that his colleagues would bestow upon him the same loyalty that they had extended for so many years to their late chairman. As far as the accounts were concerned, the chairman had dealt very fully with them, and he was sure the shareholders would approve of the conservative policy of the board.

On being put to the meeting, the resolution was carried unanimously.

On the motion of the Right Honourable Lord Furness, seconded by Mr. R. E. BURNELL, the election of Mr. David Cooke on the directorate was confirmed.

The re-election of the retiring directors (Sir Stephen W. Furness, Bart., M.P., the Right Hon. Lord Furness, and Mr. R. J. Thompson) was carried unanimously, on the motion of Mr. R. W. VICK, J.P., seconded by Mr. A. S. PERDUE, J.P.

The auditors (Messrs. W. T. Walton and Son) were re-elected. A hearty vote of thanks to the chairman terminated the proceedings.

# DIVIDEND ANNOUNCEMENTS.

**Transatlantic Steamship Co., Ltd.**—Interim dividend of 3s. per share.

**Transatlantic Steamship Co., Ltd.**—Interim dividend of 75 cents per share.

**Interim dividend of 4s. per share on the ordinary shares for the half-year.**

**SWANSEA AND MUMBLES RAILWAY.**—Interim dividend at the rate of 8½ per cent. per annum (7s. per share) on the ordinary shares for the half-year.

**dividends of 2s. 6d. per share on the £2 paid shares and 1s. 3d. per share on the £1 paid shares for the half-year.**

**WALTER SCOTT, LTD.** At 7½ per cent. on the ordinary shares (making 10 per cent. for the year), and on the preference shares at the rate of 6 per cent. per annum for the half-year.

**stock.** A year ago the dividend was at the same rate, and £510 was carried forward.

**BRISTOL TRAMWAYS AND CARRIAGE COMPANY.**—An interim dividend has been declared at the rate of 4 per cent. per annum for the half-year ended June 30. The dividend warrants will be posted on August 6.

**MARYPORT AND CARLISLE RAILWAY (July 28).**—An interim dividend at the rate of 6½ per cent. per annum. A year ago the dividend was at the rate of 5 per cent. per annum and £507 was carried forward.

**dividend has been declared at the usual rate of 10 per cent. per annum for the half-year ended June 30.**

**ISLE OF WIGHT CENTRAL RAILWAY.** An interim dividend at the rate of 2½ per cent. per annum on the first preference stock for the past half-year. Only the debenture interest was paid for the corresponding periods of many previous years.

corresponding period of last year. The surplus £1,111 is applied in payment of interest on the debenture stock, and dividend on the extension ordinary stock.

on the deferred stock at the rate of 10 per cent. per annum.

the rate of  $4\frac{1}{2}$  per cent. per annum. A year ago the dividend was at the rate of 4 per cent. and £2,600 was carried forward for the past ten years are appended:—

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
1st Half	4	4	4	4	4	4	4	3	3	3
2nd Half	5	5	5	5	4	4	4	4	4	3
Ann. Div.	5	4	4	4	4	4	4	3	3	3

**Great Northern Railway.**—The directors have declared an interim dividend at the rate of 1 per cent. per annum on the deferred converted ordinary stock. A year ago the dividend was at the rate of  $\frac{1}{2}$  per cent., and £6,566 was carried forward. The dividends for the past ten years are appended:—

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
1st Half	1	1	1	1	1	1	1	1	1	1
2nd Half	1	1	1	1	1	1	1	1	1	1
Ann. Div.	1	1	1	1	1	1	1	1	1	1

**Great Western Railway.**—The directors have declared an interim dividend for the half-year ended June 30 last, on the consolidated ordinary stock at the rate of  $4\frac{1}{2}$  per cent. per annum. The receipts of the undertaking, including the balance brought forward, amounted approximately to £7,793,000, and the expenses to £5,110,000, and after providing for payment of fixed charges and the dividends on the consolidated preference and convertible preference stocks and the interim dividend on the ordinary stock a balance remains of £2,683,000. The dividend warrant will be posted on August 1. The dividends for the past ten years are appended:—

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
1st Half	4	3	4	4	3	3	3	3	3	4
2nd Half	5	5	5	5	5	5	5	5	5	5
Ann. Div.	5	3	4	4	3	3	3	3	3	4

**London and North-Western Railway.**—The directors have declared dividends at the full rate on all the preference stocks for the past half-year; but in consequence of the inclusion of January in place of July, the first half of the year, as compared with corresponding half-years before the passing of the Railway Companies Accounts and Returns Act, 1911, yields much less net revenue to the company; and it has not been possible to prepare any comparative figures on account of this. The board have, therefore, resolved not to declare any interim dividend on the ordinary stock, but have every reason to expect that the results of the twelve months' working will be at least equal to those of last year. A year ago a dividend at the rate of  $1\frac{1}{2}$  per cent. per annum was paid on the ordinary stock.

**London Railway.**—The directors have yesterday issued an interim statement for the half-year ended June 30 last, which is based on the half-yearly consolidated preference stocks down to and including the 4 per cent. preference stock 1880. The statement shows that estimated gross receipts from railway, joint lines, steamboats, canals, and other sources, including the balance brought forward, amounted to £1,000,000, and the expenses to £700,000, leaving a balance of £300,000, which will be available for the payment of the fixed charges, the dividends on the preference stocks, and the interim dividend on the ordinary stock. The dividends for the past ten years are appended:—

**London and South-Eastern Railway.**—The directors have yesterday issued an interim statement for the half-year ended June 30 last, which is based on the half-yearly consolidated ordinary stock. For the corresponding half of last year the

undivided ordinary and 4 per cent. per annum on the preference stocks.

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
1st Half	4	4	4	4	4	4	4	4	4	4
2nd Half	5	5	5	5	5	5	5	5	5	5
Ann. Div.	5	4	4	4	4	4	4	4	4	4

**Hull and Barnsley Railway Company.**—The directors have yesterday issued an interim statement for the half-year ended June 30 last, which is based on the half-yearly consolidated ordinary stock at the rate of 3 per cent. per annum, and the dividends on the preference stocks.

**Midland Great Western Railway.**—The directors have yesterday issued an interim statement for the half-year ended June 30 last, which is based on the half-yearly consolidated ordinary stock at the rate of 3 per cent. per annum, and the dividends on the preference stocks.

**North Staffordshire Railway.**—The directors have yesterday issued an interim statement for the half-year ended June 30 last, which is based on the half-yearly consolidated ordinary stock at the rate of 3 per cent. per annum, and the dividends on the preference stocks.

**South Eastern Railway.**—The directors have yesterday issued an interim statement for the half-year ended June 30 last, which is based on the half-yearly consolidated ordinary stock at the rate of 3 per cent. per annum, and the dividends on the preference stocks.

the ordinary stock and £24,170 was carried forward. The dividends for the past ten years are appended:—

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
1st Half	3	1	2	3	1	1	2	nd	nd	nd
2nd Half	5	4	4	4	3	3	4	2	2	2
Ann. Div.	3	3	3	2	1	2	2	1	1	1

**North Staffordshire Railway.**—After amply providing for all liabilities and the usual reserves, an interim dividend at the rate of 4 per cent. per annum on the ordinary stock has been declared, carrying forward £11,000. The directors state that in consequence of the coal strike of 1912, there is an apparent large increase in the traffic receipts, but when comparison is made with the normal half-year of 1911 it is found that there is very little increase, and owing to the concessions which have been made in wages and salaries, cost of national insurance, and exceedingly high prices of all materials, there has been a large increase in working expenses. A year ago, the dividend was at the rate of  $3\frac{1}{2}$  per cent. per annum, and £8,082 was carried forward. The dividends for the past ten years are appended:—

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
1st Half	4	3	4	3	3	3	4	4	3	3
2nd Half	5	5	5	4	4	4	4	4	4	4
Ann. Div.	4	4	4	3	3	3	4	4	4	4

**North London Railway.** (July 31).—The directors have declared an interim dividend on the consolidated stock of £2 10s. per cent. for the half-year ended June 30, 1913, that is at the rate of £5 per cent. per annum. The receipts of the undertaking, including the balance brought forward, amount approximately to £230,000, and the expenses to £158,000, and after providing for payment of the fixed charges and the interim dividends on the preference and consolidated stocks a balance remains of about £70,000. The dividend warrants will be posted on August 8. A year ago the dividend was at the rate of  $4\frac{1}{2}$  per cent. per annum (£5,000 being taken from the reserve) and £7,063 was carried forward. The dividends for the past ten years are appended:—

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
1st Half	4	3	3	4	3	3	4	4	3	3
2nd Half	5	5	5	4	3	3	5	5	4	5
Ann. Div.	4	3	3	4	3	3	5	5	4	5

**North Western Railway.**—The directors have declared an interim dividend on the ordinary stock of £3 per cent. for the half-year ended June 30, 1913, that is at the rate of £6 per cent. per annum. The receipts for the undertaking, including the balance brought forward, amount approximately to £8,230,000, and the expenses to £5,033,000, and after providing for payment of the fixed charges and the interim dividends on the guaranteed preference and ordinary stocks a balance remains of about £157,000. The general reserve remains unaltered. The dividends for the past ten years are appended:—

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
1st Half	6	5	6	5	4	4	5	5	5	5
2nd Half	8	7	7	7	6	7	7	7	7	6
Ann. Div.	6	6	6	5	5	6	6	6	6	6

## RAILWAY DIVIDENDS DUE.

After the 1st of July, the following railways have announced interim dividends for the half-year ended June 30, and the dividends will be posted on or about the following dates:—

Railway.	Interim Dividend.	Date of Posting.
Great Northern	1 per cent.	Aug. 1.
Great Western	$4\frac{1}{2}$ per cent.	Aug. 1.
London and North-Western	None.	Aug. 1.
London Railway	4 per cent.	Aug. 1.
London and South-Eastern	3 per cent.	Aug. 1.
Midland	3 per cent.	Aug. 1.
Midland Great Western	3 per cent.	Aug. 1.
North London	£2 10s. per cent.	Aug. 8.
North Staffordshire	4 per cent.	Aug. 8.
South Eastern	3 per cent.	Aug. 8.
Staffordshire	4 per cent.	Aug. 8.
Worcester and Hereford	4 per cent.	Aug. 8.
York and North Yorkshire	4 per cent.	Aug. 8.

Railway.	Interim Dividend.	Date of Posting.
Great Northern	1 per cent.	Aug. 1.
Great Western	$4\frac{1}{2}$ per cent.	Aug. 1.
London and North-Western	None.	Aug. 1.
London Railway	4 per cent.	Aug. 1.
London and South-Eastern	3 per cent.	Aug. 1.
Midland	3 per cent.	Aug. 1.
Midland Great Western	3 per cent.	Aug. 1.
North London	£2 10s. per cent.	Aug. 8.
North Staffordshire	4 per cent.	Aug. 8.
South Eastern	3 per cent.	Aug. 8.
Staffordshire	4 per cent.	Aug. 8.
Worcester and Hereford	4 per cent.	Aug. 8.
York and North Yorkshire	4 per cent.	Aug. 8.

Railway.	Interim Dividend.	Date of Posting.
Great Northern	1 per cent.	Aug. 1.
Great Western	$4\frac{1}{2}$ per cent.	Aug. 1.
London and North-Western	None.	Aug. 1.
London Railway	4 per cent.	Aug. 1.
London and South-Eastern	3 per cent.	Aug. 1.
Midland	3 per cent.	Aug. 1.
Midland Great Western	3 per cent.	Aug. 1.
North London	£2 10s. per cent.	Aug. 8.
North Staffordshire	4 per cent.	Aug. 8.
South Eastern	3 per cent.	Aug. 8.
Staffordshire	4 per cent.	Aug. 8.
Worcester and Hereford	4 per cent.	Aug. 8.
York and North Yorkshire	4 per cent.	Aug. 8.

Railway.	Interim Dividend.	Date of Posting.
Great Northern	1 per cent.	Aug. 1.
Great Western	$4\frac{1}{2}$ per cent.	Aug. 1.
London and North-Western	None.	Aug. 1.
London Railway	4 per cent.	Aug. 1.
London and South-Eastern	3 per cent.	Aug. 1.
Midland	3 per cent.	Aug. 1.
Midland Great Western	3 per cent.	Aug. 1.
North London	£2 10s. per cent.	Aug. 8.
North Staffordshire	4 per cent.	Aug. 8.
South Eastern	3 per cent.	Aug. 8.
Staffordshire	4 per cent.	Aug. 8.
Worcester and Hereford	4 per cent.	Aug. 8.
York and North Yorkshire	4 per cent.	Aug. 8.

Railway.	Interim Dividend.	Date of Posting.
Great Northern	1 per cent.	Aug. 1.
Great Western	$4\frac{1}{2}$ per cent.	Aug. 1.
London and North-Western	None.	Aug. 1.
London Railway	4 per cent.	Aug. 1.
London and South-Eastern	3 per cent.	Aug. 1.
Midland	3 per cent.	Aug. 1.
Midland Great Western	3 per cent.	Aug. 1.
North London	£2 10s. per cent.	Aug. 8.
North Staffordshire	4 per cent.	Aug. 8.
South Eastern	3 per cent.	Aug. 8.
Staffordshire	4 per cent.	Aug. 8.
Worcester and Hereford	4 per cent.	Aug. 8.
York and North Yorkshire	4 per cent.	Aug. 8.

Railway.	Interim Dividend.	Date of Posting.
Great Northern	1 per cent.	Aug. 1.
Great Western	$4\frac{1}{2}$ per cent.	Aug. 1.
London and North-Western	None.	Aug. 1.
London Railway	4 per cent.	Aug. 1.
London and South-Eastern	3 per cent.	Aug. 1.
Midland	3 per cent.	Aug. 1.
Midland Great Western	3 per cent.	Aug. 1.
North London	£2 10s. per cent.	Aug. 8.
North Staffordshire	4 per cent.	Aug. 8.
South Eastern	3 per cent.	Aug. 8.
Staffordshire	4 per cent.	Aug. 8.
Worcester and Hereford	4 per cent.	Aug. 8.
York and North Yorkshire	4 per cent.	Aug. 8.

Railway.	Interim Dividend.	Date of Posting.
Great Northern	1 per cent.	Aug. 1.
Great Western	$4\frac{1}{2}$ per cent.	Aug. 1.
London and North-Western	None.	Aug. 1.
London Railway	4 per cent.	Aug. 1.
London and South-Eastern	3 per cent.	Aug. 1.
Midland	3 per cent.	Aug. 1.
Midland Great Western	3 per cent.	Aug. 1.
North London	£2 10s. per cent.	Aug. 8.
North Staffordshire	4 per cent.	Aug. 8.
South Eastern	3 per cent.	Aug. 8.
Staffordshire	4 per cent.	Aug. 8.
Worcester and Hereford	4 per cent.	Aug. 8.
York and North Yorkshire	4 per cent.	Aug. 8.





## GENERAL NEWS.

Great Eastern Railway.  
General Manager's Office, Liverpool Street Station,  
London, E.C.

I am in receipt of your letter, R. of the 11th inst., in reference to the accident that took place at Colchester on the 12th instant.

As regards the information given to intending passengers, I beg to enclose herewith copies of the statements made by the booking office clerks at the main line booking offices at Liverpool Street.

In relation to the information given to people waiting the arrival of friends at the different points on the line, persons enquiring at various stations for expected friends were duly furnished by the station-masters and staff with information from time to time during the afternoon and evening, and efforts were made to ascertain detailed particulars for the information of enquirers and intending passengers.

With regard to passengers in the wrecked train, only one was detained at the hospital at Colchester, and his wife was with him. With the exception of one or two persons who motored home, the whole of the remaining passengers joined a special train which was made up as quickly as possible after the accident, and left Colchester at 4.35 p.m., arriving at Liverpool Street at 5.55 p.m. This early arrival in London under the circumstances enabled the other passengers who were travelling by the Cromer express to reach Liverpool Street or their homes without serious delay, and thus enabled them to allay the anxiety of their friends. It was well known that the 1 p.m. ex Cromer was the only train which had met with any accident, and that any subsequent delay was only the result of the block which had occurred.

It was hoped that the line would have been cleared in much less time than it actually took to remove the wreckage; otherwise more trains would have been diverted *via* Cambridge, although it was not possible to deal in this way with those trains that were already on their way.

In relation to the concluding paragraph of your communication, the company consider it was quite beyond their ability to supply refreshments to passengers in trains stopped between stations extending over many miles of railway, and while they much regret the inconvenience occasioned to travellers in these circumstances they do not know in what way they could have relieved them.

32 per cent. of the trams despatched between 3 p.m. and midnight on the day in question contained restaurant cars and that the refreshment-rooms at the principal stations were kept open through the night, as they notice that this information was not made known in the House of Commons.—I am, Sir, your obedient servant,  
(Signed) W. H. HYDE.

[ENCLOSURE.]  
Great Eastern Railway.  
Office of Superintendent of the Line.  
Liverpool Street Station, London, E.C.

## The Movement in Favour of Social Improvement. I

#### CREWE CENTRALISATION AND EXTENSION SCHEME.

In addition to the time-table and train diagramming staff, for whom temporary offices have been fitted up at the Mechanics' Institute, the train control staff is to be centralised at Crewe, and the rolling stock clerical staff is to be moved from Stafford. Offices are to be provided for them on Nos. 1 and 2 platforms at Crewe Station. The refreshment-room waitresses formerly housed at the station will be transferred to an addition to be made to the railway company's hotel.

Further developments are said to be in contemplation, and Crewe railway works are also being extended at the west end of the town. Over a thousand men are now working overtime in the works, and in some departments night shifts have been resorted to in order to meet the demand for more locomotives and rolling stock.

## RAILWAY EXTENSIONS FOR NEW SOUTH WALES.

On 11th Dec. 1890, in the course of the New South Wales Parliament, Sir G. Strickland, the Governor, stated that Parliament would be asked to consider proposals respecting an underground city railway and vehicular ferry services between Sydney and North Sydney. He added that the recent abundant wheat harvest illustrated the need of modernising the other methods of transportation. An expert's report, based upon local conditions and requirements, would be submitted, together with proposals on the part of the Government for the erection of grain elevators and the necessary provision of rolling stock.

Mr. Griffiths, the Minister of Works, replying to criticisms on July 25, quoted figures regarding the recent railway construction, showing that under the contract system, since 1867, there had been 40½ miles of railway constructed at a cost of £1,744,400, or an average of £4,300 per mile. Under the day labour system, 705 miles were constructed, at a cost of £2,540,867, or an average of £3,321 per mile. In the case of the contract system the total cost exceeded the estimates by £220,880, whereas by the day labour system the cost worked out at £282 less than the estimates.

### THE INCREASE OF RAILWAY RATES.

In correspondence which has taken place between the President of the Board of Trade and the Employers' Parliamentary Association, Mr. Buxton, referring to a letter of the Association of June 26, points out that the Railway and Canal Traffic Act, 1913, did not give the railway companies any power which would be exercised in pursuance of either the principle of the Act of 1894 or the procedure it prescribes. The only alteration effected was to lay down certain conditions under which increased cost of labour was to be taken as justifying an increase of rate. If objection is taken to the increase on the ground that the total amount of the increase of rate is more than is reasonably required to meet the increased cost of labour, it would appear possible to deal with the question by a limited number of test cases. If, on the other hand, a trader is of opinion that the proportion of the increase allocated to the traffic in which he is interested is unreasonable, it would seem to be clearly for him to take action either by himself or through a responsible association.

In their reply the Executive of the Association point out that the Act has not created any new difficulties, but that serious difficulties have arisen as a direct consequence of that Act. On the understanding that the proposed remedy is to be the effect of the trouble caused by the Act, it is not proposed to amend the Act, but to leave it as it is. The Act is not the fault, the railway companies have made a sweeping advance in respect of a large proportion of the traffic. While it is true that the traders have their remedy by appealing to the Railway and Canal Commission, it is not possible to deal with the conditions of traffic it would be impossible to deal with the question by a limited number of test cases, and any such method of seeking redress would therefore involve an action of great complexity at great expense. Having regard therefore to the fact that the Act is not the cause of the trouble

and finally to the fact that it is peculiarly the duty of the community, the Association suggest that the Board should arrange a conference with representatives of the traders and of the railway companies, at which the companies would be invited to show exactly the amount of the increase in wages involved and to satisfy the conference as to the amount of such increase which might reasonably be allocated to that part of the traffic affected by the proposed increase in rates. The conference would also take into consideration all such other attendant circumstances as would properly be taken into account in proceedings before the Railway and Canal Commissioners. By these means it was likely that, without great difficulty, agreement would be reached at some figure which would represent some percentage, possibly 4 per cent., as claimed by the railway companies, possibly something substantially less, as claimed by the traders. The Association submit that a solution of the difficulty arrived at in this manner would in every sense be more desirable and more in the general interest than if sought by prolonged and costly litigation, with its attendant bitterness and hostility, even were such a course practicable.

### LIGHT RAILWAY DEVELOPMENTS.

COMMENCEMENT OF THE DERWENT VALLEY LINE.

With the customary ceremony of a broad ribbon stretched across the platform and line at Layerthorpe Station, York, Lady Deramore, wife of the chairman of the directors of the company, opened the Derwent Valley Light Railway on July 19. The line had been inspected by Colonel von Donop, Chief Inspecting Officer of Railways, on July 17, when he expressed his entire satisfaction and especially commended the ample accommodation for goods traffic at the wayside stations.

After the opening ceremony a train was run the length of the system, a stop being made at each of the nine stations—Osbaldwick, Murton Lane, Murton Halt, Dunnington, Elvington, Wheldrake, Cottingham, Thorganby, and Skipwith and North Duffield. The engine was then reversed and the return journey was made at scheduled speed, which has been fixed at 25 miles an hour. At the luncheon, the Lord Mayor of York, in proposing success to the railway company, remarked that the following week a Yorkshire evening paper was going to be delivered at York by aeroplane, and in all probability if the line had not been opened that day it would have been superseded, and the farmers' wives from the Derwent Valley would have been delivering their eggs and butter in York by aeroplane also. Lord Deramore, in responding, mentioned as to the guarantee by the Escrick and Riccall Rural Councils of three per cent. on the £50,000 ordinary shares, that Lord Wenlock and other landowners, through whose land the railway passed, had indemnified the councils as to half of that liability, and the company had taken out sinking fund policies to cover the other liability, so that the ratepayers did not stand to lose anything. Mr. H. A. Watson, general superintendent, North Eastern Railway, proposed the health of Lord Deramore, who in his response expressed the hope that before long the assembly would meet again to celebrate the doubling of the line.

At Aberdeen recently the Development Commissioners received a deputation with regard to the proposed trans-Buchan railway and the projected light railway from Strichen and Turfiff. The Commissioners, Mr. Vaughan Nash, Sir Wm. S. Haldane, with Mr. H. T. Dale, clerk, visited the localities after hearing the views of the deputations. The first mentioned scheme is put forward by the Scottish Light Railways and Development Syndicate, Ltd., and the second by the Association for the Development of the Counties of Aberdeen, Kincardine, and Banff.

The promoters of the Brandsby Light Railway have been informed by the Development Commissioners that the Treasury has agreed to make a grant of £20,000 from the Development Fund towards the cost of the construction of thirteen miles of light railway from Haxby, near York, to Brandsby, serving a rich agricultural area. Application is also being made to the County Council for a loan of £5,000. The authorised capital is £40,000. The route is over a practically dead level.

mentioned that the collieries at Snowdown and Tilmantston were each raising 900 tons of coal a week. Of the light railways sanctioned by the Order of 1910 the line from Shepherdswell to Tilmantston was practically completed, and so was a branch to Guildford Colliery. There was a temporary line from Tilmantston to Wingham, with a branch to Woolfeshborough, while the railway from Eastry to Sandwich was in an advanced stage, the portion to Woolfeshborough being actually working. Two other lines were about to begin and two more were in process of construction. The present application provided for additional connections with the South Eastern and Chatham railways, with new routes for colliery areas which would come into working. The connection of Wingham Colliery to the South Eastern system was particularly required for getting material to the collieries and also for the conveyance of workmen in and out of Canterbury. There would also be a linking up with the port and town of Deal. Evidence was given by Dr. M. Burr, the chairman of the company and collieries, and Mr. Stephens, the engineer of the light railways. The applications were granted, except in two cases. The owner of an old Tudor mansion asked for an alternative route for the part of the line to Deal proposed to pass through his orchard. The Commissioners decided to visit the spot before giving their decision, which was also reserved in the case of an objection by Lord Desborough in the hope that an agreement would be arrived at. On behalf of the South Eastern and Chatham Companies Mr. Marsh announced that they had agreed on all matters concerning the light railways, but had one little question with regard to rates, which might have to be taken to the Board of Trade.

### ACCIDENTS ON RAILWAYS IN 1912.

Accidents occurring on the railways of the United Kingdom in 1912. The total route length of the railways at the end of the year was 23,441 miles and the total number of miles travelled by trains was 412 millions (a decrease of about 16 millions on the previous year brought about in part by the miners' strike), whilst the quantity of minerals and general merchandise conveyed was 520 million tons (a decrease of about three millions).

The following table shows the number of persons killed or injured by train accidents:

Thus there were 1,010 people killed, as compared with 1,170 in 1911, and 8,700 persons injured compared with 8,435.

In addition to accidents caused by the running of trains and the movement of railway vehicles a large number of accidents unconnected with railway working occurred on railway premises which accounted for the death of 107 persons and injury to 23,020 persons. During the twelve months eight fatal and 64 non-fatal cases of injury to their servants were reported by dock companies and harbours, all of which having occurred on railway lines belonging to them.

For one passenger was killed on the average of 1,010, 65,000,000 journeys and one injured on 2,200,000.

injured in 1912. The report states that there were more deaths than the figures indicate since they take no account of the journeys of season ticket holders, the number of whom had greatly increased in recent years. The number of persons

785,000.

or charged by the movement of trains and railway vehicles (excluding train accidents), taking the number of journeys into account, it is shown that in 1912 one passenger was killed in every 14,400,000 journeys and one injured in every 603,000 journeys, as compared with one in 11,000,000 killed and one in 600,000 injured, the averages for the previous ten years.

—S. 1510. RAILWAY WORKERS' PROTECTIONS.

Out of an approximate number of 608,750 railway servants employed, 330 were killed in the year, and 5,370 injured, as against an average of 379 killed and 4,670 injured in the period 1905-11.

The report continues:—"It is satisfactory to note the improvement, as compared with the previous year, in the number of accidents to railwaymen while working on the permanent way, sidings, etc. In 1911 the casualties under this head were 97 killed and 133 injured, and in 1912 64 and 88 respectively. . . . The whole subject of the protection of men at work on the permanent way has received careful consideration, and as a result of this consideration the railway companies decided in February, 1913, to amend rule 273 in the Railway Clearing House code so as (1) to make the duties of the ganger and look-out man clearer; (2) to provide that no man should act as look-out man until he has been passed by the engineer's department of the railway company concerned as competent; and (3) to remove a doubt in regard to the responsibility for ceasing work in fog or falling snow. It was also decided that all companies should supply all plate-layers employed on the permanent way with whistles or horns."

—MISHAIS TO EMPLOYEES ON ELECTRIC RAILWAYS.

With regard to accidents to servants of railway companies killed or injured on railway premises from causes not connected with the movement of trains and railway vehicles, the report gives 53 killed and 22,498 injured. Although these accidents are not as a rule attributable to railway working, the report mentions that an exception must be made in the case of accidents caused by contact with the live rails and wires of railways equipped for electric traction, which are distinctly railway accidents, though not caused by the movement of vehicles. In this way 14 servants were injured in 1912; in 1911 one servant was killed and 20 injured (one of whom was employed by contractors); in 1910, 16 servants were injured; and in the six previous years, 1904-1909, inclusive, the average number of accidents of this nature was one killed and eleven injured. Precautions against the recurrence of such accidents have been taken by covering the live rail at exposed places and posting warnings. Accidents of this class have become comparatively less frequent than they were when electrical working was introduced, when the increase in the length of line equipped for electric traction is taken into account.

## PERSONAL.

Mr. G. J. Louis, general manager of the London and North Western Railway, at London, has been appointed to the position of general manager of the Great Central Railway, at London.

Mr. Howard Elliott, President of the New York Public Road, and Mr. J. R. C. Elliott, Secretary of the same, have been elected to the position of President and Secretary of the New York Public Road, respectively.

Mr. Felix J. C. Pote, general manager of the Great Western Railway, at London, has been appointed to the position of general manager of the Great Western Railway, at London.

Mr. Arthur York, general manager of the Great Western Railway, at London, has been appointed to the position of general manager of the Great Western Railway, at London.

Mr. Henry Waller, general manager of the Great Western Railway, at London, has been appointed to the position of general manager of the Great Western Railway, at London.

Mr. J. L. W. G. St. John, general manager of the Great Western Railway, at London, has been appointed to the position of general manager of the Great Western Railway, at London.

Mr. J. L. W. G. St. John, general manager of the Great Western Railway, at London, has been appointed to the position of general manager of the Great Western Railway, at London.

Mr. G. H. Solly, late post and railway claims' assistant to the superintendent of the London and North Western Railway, has retired after 40 years' service, including 15 years in the position of claims' assistant. Mr. Solly is referred to as follows in the August issue of the *Company's Gazette*:—"As it is to be imagined, Mr. Solly's work brought him into the face with intense sorrow and suffering, but being a devoted student of human nature, as well as a man of high ideals, with a cheerful and cheerful manner, he was able to extend to those in distress real sympathy, encouragement, and help. It only so this reason he will be missed by many."

Mr. G. R. Mann, who recently retired from the London and North Western Railway after 47 years' service, had for 15 years been the right-hand man of successive chief goods managers. The company's *Gazette* records that, during the time Mr. Mann was connected with the goods train department, the carrying of goods trains increased by about 45 per cent, and that for the twelve months ending June, 1912, it was the highest on record, increasing from 1,845,760 to 1,849,441 per train mile. Nearly six million passengers were carried, although there was a decrease of nearly 500,000 goods train miles.

Mr. G. T. Phizackery and Mr. G. W. Waterlow, on promotion from the positions of district traffic superintendent and assistant district traffic superintendent in the Chester and Holyhead district, to the positions of district goods manager and assistant district goods manager respectively in the Liverpool district, have received medals of the great holding of the office staff. Mr. Phizackery was presented with a silver-plated table flower and a gold cigarette holder in silver case, and Mr. Waterlow with a silver purse and a gold case combined. Mr. Phizackery made the presentation, paying a tribute to Mr. Phizackery for his long and successful service, and to Mr. Waterlow for the way he had earned the esteem of the staff in a short time. Messrs. Phizackery and Waterlow thanked the office staff, and made the presentation for their constant loyalty and helpfulness during the strenuous exertions of the last three years.

## RAILWAY NOTES.

**Lishguard Waterford Service.** The Waterford and Lishguard Railway, at Lishguard, is to be opened in July.

**The Channel Tunnel.** The French Minister has announced that a report will be made on the question of the construction of a Channel tunnel between this country and France.

**Indian Railways and Medical Research.** The Bengal-Nagpur Railway, at Nagpur, has been selected for the purpose of medical research, and the Indian Railway Company has been selected for the purpose of medical research, and the Indian Railway Company has been selected for the purpose of medical research.

**South Eastern and Chatham Enterprise.** In addition to Continental and other foreign goods, the South Eastern and Chatham Railway Company issues a register of estates and houses, and a list of the names of the owners of the same. Any of the publications is forwarded post free to inquirers.

**The Loetschberg Railway.** The Loetschberg Railway, at Bern, has been selected for the purpose of medical research, and the Loetschberg Railway, at Bern, has been selected for the purpose of medical research.

**A New Great Western Express.** A new express, with a restaurant car, for third-class passengers only, was run by the Great Western Railway for the first time on July 1, 1913, between London and Exeter. The train left Paddington at 10.15 a.m. on July 1, and arrived at Exeter at 10.15 p.m. on July 1. The train was run by the Great Western Railway, and the Great Western Railway, at London, has been selected for the purpose of medical research.

**New Route to the Midlands and North for Channel Islands.** Produce. According to the Channel Islands, great success is being achieved by the new route to the Midlands and North for Channel Islands. The new route is being run by the Great Western Railway, and the Great Western Railway, at London, has been selected for the purpose of medical research.

**Commercial Travellers and Abuse of Railway Privileges.** A regulation strictly enforced, the misuse of weekend tickets, and pledging support to the railway companies in seeing that the commercial travellers' tickets were not used for the purpose of making a profit, is being enforced by the Great Western Railway, at London, has been selected for the purpose of medical research.





## RAILWAY STOCK AND SHARE LIST

### HOME RAILWAY ORDINARY STOCKS.

NAME		CLOSING PRICES.				NAME		CLOSING PRICES.			
		1897	1898	1899	A Year Ago			1897	1898	1899	A Year Ago
Harry, Ord.	17	162	181	184	183	London, Chast. & Dover, Arbit. Ord.	177	191	176	174	174
Do. Pref. Conv. Ord. (4%)	18	181	85	79	82	London and North Western, Cons.	132	135	130	131	132
Do. Def. Conv. Ord.	40	45	92	93	67	London and South Western, Cons.	111	115	112	114	124
Calcutta, Ord.	24	70	70	64	70	Do. 4% Pref. Conv. Ord.	79	80	84	81	78
Do. Pref. Conv. Ord. (3%)	57	59	59	57	57	Mersey, Cons. Ord.	4	6	4	6	3
Do. Def. Conv. Ord.	14	20	14	20	20	Metropolitan, Cons.	44	45	45	45	52
Do. Def. Ord., No. 1	24	24	24	24	24	Do. Surplus Lands Stock	59	61	61	63	67
Cambridge, St. Captain, No. 1	24	24	24	24	24	Metropolitan Dist. Cap. Stock	43	44	44	44	47
Do. Capital Stock	24	24	24	24	24	Midland, Pref. Conv. Ord. (2½%)	52	53	53	53	60
Cardiff, Pref. Conv. Ord.	75	75	75	75	75	Do. Def. Conv. Ord.	75	75	74	74	68
Central London, Ord.	80	82	82	82	85	North British, Ord. Pref. (3%)	61	61	62	64	62
Do. Pref. (4%)	80	82	82	82	85	Do. Def. Ord.	58	58	58	58	58
Do. Def.	75	77	75	75	75	N. Cornwall (L.&H.) 4% Pref. Or.	87	89	87	89	81
City & South London, Cons. Ord.	75	77	75	75	75	Do. Def. Ord.	60	71	66	71	35
East London, Cons. Ord.	75	77	75	75	75	North Eastern, "Cons."	11	11	12	12	12
Furness, Cons. Ord.	38	40	38	40	45	North London, Cons.	43	43	43	43	100
Glasgow and S. Western Pref. Ord.	55	56	55	55	59	North Scotland, Cons.	42	42	42	42	48
Do. Def. Ord.	45	44	47	44	42	Plymouth Devon & S.W. Jan., Or.	47	48	46	49	50
Great Central, Pref. Conv. Ord.	34	34	34	34	34	Port Talbot Railway and Docks	17	18	18	18	14
Do. Def. Ord.	15	15	15	15	15	Rhonda and Swansea Bay	11	11	11	11	11
Great Eastern, Ord.	55	55	55	55	55	Rhymney, Ord. Pref. Cap. Stock	17	17	17	17	16
Great N. of Scotland, Pf. Conv. Or.	55	55	55	55	55	Do. Pref. Ord. (4%)	94	94	94	93	82
Great Northern, Pref. Conv. Ord.	81	82	83	83	87	Sheffield District, £10 Shares	4	4	4	4	4
Do. Def. Conv. Ord.	52	52	52	52	52	South Eastern, Ord.	81	81	81	81	85
Do. Cons. A	14	14	14	14	14	Do. Def. Ord.	11	11	11	11	11
Great North & City Pref. Or. (4%)	124	127	130	131	134	Stratford & Mid. Junc. Cons. Ord.	55	55	55	55	55
Great Western, Cons. Ord.	117	117	115	115	117	Taff Vale, Ord.	71	72	72	72	71
Highland, Cons. Capital	41	41	41	41	41	Value of Investment, Ord.	85	85	85	85	85
Highland Economy, Cons.	64	64	64	64	64						
Isle of Wight, Pf. Conv. Ord. (4%)	72	72	72	72	72						
Do. Def. Conv. Ord.	35	35	35	35	35						
Land and Lakes, Cons. Ord.	5	5	5	5	5						
London, Hendon & S. Coast, Ord.	11	11	11	11	11						
Do. Def. Ord.	12	12	12	12	12						
Do. Def. Ord.	8	8	8	8	8						
Do. Cert. Cons. Rights above 6%	9	9	9	9	9						

### Debenture Stocks.

[illegible]**Debenture Stocks** (continued).

North Carolina	4	754
North Dakota	1	111
North-South Carolina	3	70
North-South Carolina & W. Virginia	4	80
North Carolina & Virginia	4	80
North Carolina & Maryland	4	93
North Carolina & West Virginia	4	94
South Carolina & Maryland	4	92
South Carolina & Virginia	4	94
South Carolina & West Virginia	4	92
Virginia & Maryland	4	122
Virginia	3	81
Virginia	3	80
Virginia	3	74
Virginia	3	74
Virginia & Maryland	4	93
Virginia & West Virginia	4	93

### Preference Stocks.

[illegible]

### Preference Stocks—

(continued).

[illegible]



B—London & North-Western, Ltd. L—London & North-Western, Ltd. M—Midland, Ltd. N—North-Eastern, Ltd. D—Donkey & North-Western, Ltd. W—Great Western, Ltd. Y—Yorkshire, Ltd.

THE PRICES OF SOME HOME RAILWAY STOCKS March 1 1912-August 1 1913



[illegible]

# OFFICIAL TRAFFIC RETURNS.

<b>Barry.</b> Week ending July 27 1913. 1912. Total for week ..... £14,155 £12,595 Aggregate for 30 weeks ..... 10,300 10,677 Passengers, etc. .... 10,300 10,677 Goods, etc. .... 10,300 10,677 M. open ..... Inc. this week, 15. Dec. 30 weeks, £7,828		
<b>Caledonian.</b> Week ending July 27 1913. 1912. Total for week ..... £11,134 £11,134 Aggregate for 30 weeks ..... 11,134 11,134 Passengers, etc. .... 11,134 11,134 Goods, etc. .... 11,134 11,134 M. open ..... Inc. this week, 15. Dec. 30 weeks, £10,038		
<b>Cambrian.</b> Week ending July 27 1913. 1912. Total for week ..... £11,134 £11,134 Aggregate for 30 weeks ..... 11,134 11,134 Passengers, etc. .... 11,134 11,134 Goods, etc. .... 11,134 11,134 M. open ..... Inc. this week, 15. Dec. 30 weeks, £10,038		
<b>Central London.</b> Week ending July 27 1913. 1912. Total for week ..... £22,748 £2,778 Aggregate for 30 weeks ..... 22,748 2,778 Passengers, etc. .... 22,748 2,778 Goods, etc. .... 22,748 2,778 M. open ..... Inc. this week, 15. Dec. 30 weeks, £2,778		
<b>City and South London.</b> Week ending July 27 1913. 1912. Total for week ..... £22,748 £2,778 Aggregate for 30 weeks ..... 22,748 2,778 Passengers, etc. .... 22,748 2,778 Goods, etc. .... 22,748 2,778 M. open ..... Inc. this week, 15. Dec. 30 weeks, £2,778		
<b>Dublin and South Eastern.</b> Week ending July 27 1913. 1912. Total for week ..... £4,860 £4,428 Aggregate for 30 weeks ..... 4,860 4,428 Passengers, etc. .... 4,860 4,428 Goods, etc. .... 4,860 4,428 M. open ..... Inc. this week, 15. Dec. 30 weeks, £4,428		
<b>Furness.</b> Week ending July 27 1913. 1912. Total for week ..... £4,860 £4,428 Aggregate for 30 weeks ..... 4,860 4,428 Passengers, etc. .... 4,860 4,428 Goods, etc. .... 4,860 4,428 M. open ..... Inc. this week, 15. Dec. 30 weeks, £4,428		
<b>Glasgow and South Western.</b> Week ending July 26 1913. 1912. Total for week ..... £27,600 £19,800 Aggregate for 30 weeks ..... 27,600 19,800 Passengers, etc. .... 27,600 19,800 Goods, etc. .... 27,600 19,800 M. open ..... Inc. this week, 15. Dec. 30 weeks, £19,800		
<b>Great Central.</b> Week ending July 26 1913. 1912. Total for week ..... £32,500 £31,200 Aggregate for 30 weeks ..... 32,500 31,200 Passengers, etc. .... 32,500 31,200 Goods, etc. .... 32,500 31,200 M. open ..... Inc. this week, 15. Dec. 30 weeks, £31,200		
<b>Great Eastern.</b> Week ending July 26 1913. 1912. Total for week ..... £81,500 £85,200 Aggregate for 30 weeks ..... 81,500 85,200 Passengers, etc. .... 81,500 85,200 Goods, etc. .... 81,500 85,200 M. open ..... Inc. this week, 15. Dec. 30 weeks, £85,200		
<b>Great Northern.</b> Week ending July 26 1913. 1912. Total for week ..... £72,500 £71,800 Aggregate for 30 weeks ..... 72,500 71,800 Passengers, etc. .... 72,500 71,800 Goods, etc. .... 72,500 71,800 M. open ..... Inc. this week, 15. Dec. 30 weeks, £71,800		
<b>Great Northern (Ireland).</b> Week ending July 26 1913. 1912. Total for week ..... £14,155 £12,595 Aggregate for 30 weeks ..... 14,155 12,595 Passengers, etc. .... 14,155 12,595 Goods, etc. .... 14,155 12,595 M. open ..... Inc. this week, 15. Dec. 30 weeks, £12,595		
<b>Great North of Scotland.</b> Week ending July 26 1913. 1912. Total for week ..... £178,000 £174,000 Aggregate for 30 weeks ..... 178,000 174,000 Passengers, etc. .... 178,000 174,000 Goods, etc. .... 178,000 174,000 M. open ..... Inc. this week, 15. Dec. 30 weeks, £174,000		
<b>Great Southern and Western.</b> Week ending July 26 1913. 1912. Total for week ..... £894,137 £852,533 Aggregate for 30 weeks ..... 894,137 852,533 Passengers, etc. .... 894,137 852,533 Goods, etc. .... 894,137 852,533 M. open ..... Inc. this week, 15. Dec. 30 weeks, £852,533		
<b>Great Western.</b> Week ending July 27 1913. 1912. Total for week ..... £178,000 £174,000 Aggregate for 30 weeks ..... 178,000 174,000 Passengers, etc. .... 178,000 174,000 Goods, etc. .... 178,000 174,000 M. open ..... Inc. this week, 15. Dec. 30 weeks, £174,000		
<b>Highland.</b> Week ending July 27 1913. 1912. Total for week ..... £11,620 £11,620 Aggregate for 30 weeks ..... 11,620 11,620 Passengers, etc. .... 11,620 11,620 Goods, etc. .... 11,620 11,620 M. open ..... Inc. this week, 15. Dec. 30 weeks, £11,620		
<b>Hull and Barnsley.</b> Week ending July 27 1913. 1912. Total for week ..... £17,168 £17,168 Aggregate for 30 weeks ..... 17,168 17,168 Passengers, etc. .... 17,168 17,168 Goods, etc. .... 17,168 17,168 M. open ..... Inc. this week, 15. Dec. 30 weeks, £17,168		
<b>Lancashire and Yorkshire.</b> Week ending July 27 1913. 1912. Total for week ..... £76,500 £73,273 Aggregate for 30 weeks ..... 76,500 73,273 Passengers, etc. .... 76,500 73,273 Goods, etc. .... 76,500 73,273 M. open ..... Inc. this week, 15. Dec. 30 weeks, £73,273		
<b>London, Brighton and South Coast.</b> Week ending July 26 1913. 1912. Total for week ..... £52,787 £52,017 Aggregate for 30 weeks ..... 52,787 52,017 Passengers, etc. .... 52,787 52,017 Goods, etc. .... 52,787 52,017 M. open ..... Inc. this week, 15. Dec. 30 weeks, £52,017		
<b>London Electric.</b> Week ending July 26 1913. 1912. Total for week ..... £12,555 £11,850 Aggregate for 30 weeks ..... 12,555 11,850 Passengers, etc. .... 12,555 11,850 Goods, etc. .... 12,555 11,850 M. open ..... Inc. this week, 15. Dec. 30 weeks, £11,850		
<b>London and North Western.</b> Week ending July 27 1913. 1912. Total for week ..... £178,000 £174,000 Aggregate for 30 weeks ..... 178,000 174,000 Passengers, etc. .... 178,000 174,000 Goods, etc. .... 178,000 174,000 M. open ..... Inc. this week, 15. Dec. 30 weeks, £174,000		
<b>London and South Western.</b> Week ending July 26 1913. 1912. Total for week ..... £178,000 £174,000 Aggregate for 30 weeks ..... 178,000 174,000 Passengers, etc. .... 178,000 174,000 Goods, etc. .... 178,000 174,000 M. open ..... Inc. this week, 15. Dec. 30 weeks, £174,000		
<b>Metropolitan.</b> Week ending July 26 1913. 1912. Total for week ..... £14,155 £12,595 Aggregate for 30 weeks ..... 14,155 12,595 Passengers, etc. .... 14,155 12,595 Goods, etc. .... 14,155 12,595 M. open ..... Inc. this week, 15. Dec. 30 weeks, £12,595		
<b>Metropolitan District.</b> Week ending July 26 1913. 1912. Total for week ..... £14,155 £12,595 Aggregate for 30 weeks ..... 14,155 12,595 Passengers, etc. .... 14,155 12,595 Goods, etc. .... 14,155 12,595 M. open ..... Inc. this week, 15. Dec. 30 weeks, £12,595		
<b>Midland.</b> Week ending July 26 1913. 1912. Total for week ..... £123,000 £121,000 Aggregate for 30 weeks ..... 123,000 121,000 Passengers, etc. .... 123,000 121,000 Goods, etc. .... 123,000 121,000 M. open ..... Inc. this week, 15. Dec. 30 weeks, £121,000		
<b>Midland Great Western of Ireland.</b> Week ending July 26 1913. 1912. Total for week ..... £58,900 £52,500 Aggregate for 30 weeks ..... 58,900 52,500 Passengers, etc. .... 58,900 52,500 Goods, etc. .... 58,900 52,500 M. open ..... Inc. this week, 15. Dec. 30 weeks, £52,500		
<b>North British.</b> Week ending July 27 1913. 1912. Total for week ..... £58,900 £52,500 Aggregate for 30 weeks ..... 58,900 52,500 Passengers, etc. .... 58,900 52,500 Goods, etc. .... 58,900 52,500 M. open ..... Inc. this week, 15. Dec. 30 weeks, £52,500		
<b>North Eastern.</b> Week ending July 26 1913. 1912. Total for week ..... £101,652 £91,461 Aggregate for 30 weeks ..... 101,652 91,461 Passengers, etc. .... 101,652 91,461 Goods, etc. .... 101,652 91,461 M. open ..... Inc. this week, 15. Dec. 30 weeks, £91,461		
<b>North London.</b> Week ending July 27 1913. 1912. Total for week ..... £43,466 £43,695 Aggregate for 30 weeks ..... 43,466 43,695 Passengers, etc. .... 43,466 43,695 Goods, etc. .... 43,466 43,695 M. open ..... Inc. this week, 15. Dec. 30 weeks, £43,695		
<b>North Staffordshire.</b> Week ending July 26 1913. 1912. Total for week ..... £46,000 £45,200 Aggregate for 30 weeks ..... 46,000 45,200 Passengers, etc. .... 46,000 45,200 Goods, etc. .... 46,000 45,200 M. open ..... Inc. this week, 15. Dec. 30 weeks, £45,200		
<b>Rhymney.</b> Week ending July 27 1913. 1912. Total for week ..... £46,000 £45,200 Aggregate for 30 weeks ..... 46,000 45,200 Passengers, etc. .... 46,000 45,200 Goods, etc. .... 46,000 45,200 M. open ..... Inc. this week, 15. Dec. 30 weeks, £45,200		
<b>South Eastern and Chatham.</b> Week ending July 26 1913. 1912. Total for week ..... £46,000 £45,200 Aggregate for 30 weeks ..... 46,000 45,200 Passengers, etc. .... 46,000 45,200 Goods, etc. .... 46,000 45,200 M. open ..... Inc. this week, 15. Dec. 30 weeks, £45,200		
<b>Taff Vale.</b> Week ending July 26 1913. 1912. Total for week ..... £46,000 £45,200 Aggregate for 30 weeks ..... 46,000 45,200 Passengers, etc. .... 46,000 45,200 Goods, etc. .... 46,000 45,200 M. open ..... Inc. this week, 15. Dec. 30 weeks, £45,200		

Notes: 1. The figures in the above table are the actual returns for the week ending July 26, 1913, and are not the estimated figures for the week ending July 27, 1913. 2. The figures in the above table are the actual returns for the week ending July 26, 1913, and are not the estimated figures for the week ending July 27, 1913. 3. The figures in the above table are the actual returns for the week ending July 26, 1913, and are not the estimated figures for the week ending July 27, 1913.



## FOREIGN AND COLONIAL—Continued

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4. Locomotive and Rolling Stock.
5. Locomotive and Rolling Stock.
6. Locomotive and Rolling Stock.
7. Locomotive and Rolling Stock.
8. Locomotive and Rolling Stock.
9. Locomotive and Rolling Stock.
10. Locomotive and Rolling Stock.

R. H. WALLACE,  
Secretary.

6th August, 1913.

**East Indian Railway Company.**

**THE** East Indian Railway Company are prepared to receive tenders for the supply of the following Stores:

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3. Locomotive and Rolling Stock.
4. Locomotive and Rolling Stock.
5. Locomotive and Rolling Stock.
6. Locomotive and Rolling Stock.
7. Locomotive and Rolling Stock.
8. Locomotive and Rolling Stock.
9. Locomotive and Rolling Stock.
10. Locomotive and Rolling Stock.

W. A. YOUNG, Secretary.

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3. Locomotive and Rolling Stock.
4. Locomotive and Rolling Stock.
5. Locomotive and Rolling Stock.
6. Locomotive and Rolling Stock.
7. Locomotive and Rolling Stock.
8. Locomotive and Rolling Stock.
9. Locomotive and Rolling Stock.
10. Locomotive and Rolling Stock.

London, E.C.

**The Bengal and North-Western Railway Company, Limited.**

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3. Locomotive and Rolling Stock.
4. Locomotive and Rolling Stock.
5. Locomotive and Rolling Stock.
6. Locomotive and Rolling Stock.
7. Locomotive and Rolling Stock.
8. Locomotive and Rolling Stock.
9. Locomotive and Rolling Stock.
10. Locomotive and Rolling Stock.

A. VANDER LINDA,

25, Cannon Street, London, E.C., 30th July, 1913.

**POSITION VACANT.****Ceylon Government Railway.**

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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, AUGUST 9, 1913.

No. 6.

## PRINCIPAL CONTENTS.

## THE SCOTTISH RAILWAY DIVIDENDS.

The annual meeting of the railway companies has been completed, and the Scottish railway companies have announced their interim dividends for the half-year ended June 30 during the current week, so that the whole series of railway dividends is completed so far as the leading companies in the United Kingdom are concerned. The Scottish railway group, of course, have been specially affected by the operation of the new system of publishing accounts and meetings in place of the former half-yearly plan, but they have had to put their accounts forward by one month, in order to bring them into line with the English companies, which conclude their year on December 31. This change was brought about by publishing for the second part of 1912 accounts covering only five months instead of six, bringing the companies' results up to December 31 instead of January 31. This change in turn produced another important difference in the position of the Scottish railways, for it will be observed that the month of January is now substituted for July in the first half of each year, and, conversely, in the second half July will take the place of January. Under the old system of half-yearly accounts made up to July 31 and January 31, the two Scottish half-years were about equalised. The change now introduced in the dates will have the effect of bringing them into line with the English companies to the extent that they will now have a "lean" period in the six months ended June 30, and a "fat" period in the half-year ended December 31. This has a special bearing on the results of the Scottish railways, because it also happens that their preferred ordinary stocks are secured upon the profits available for the ordinary stock in each half-year only. The North British Company, in order to ensure the correct distribution of their profits, brought a friendly action before the Court of Session, and the judgment of that Court was that the preferred ordinary stock was not entitled to any dividend that had not been earned in each separate half-year. Apparently the same principle has to be adopted by the Caledonian and the Glasgow and South Western companies. All three of these companies have announced their dividends during the present week. The Caledonian dividend is to be at the rate of 3 per cent. per annum on the Ordinary stock, which will provide the full rate upon the Preferred for the half-year. No details are given, and no indication of any balance forward. The Glasgow and South Western Company have not only paid the preferred dividend in full, but have been able to recommend 2½ per cent. on the ordinary stock. The Glasgow and South Western have announced their preferred dividend of 3 per cent. upon nothing upon the deferred, which, for the first time, takes the place of the dividend, however, there is an announcement which points out that the change of the date of the accounts are made up will involve a transfer of the available sum of net revenue of not less than 10 per cent.

## THE RAILWAY TIMES.

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All communications for the following issue should be received not later than 6 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

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have been held and new orders to come. The flow of new issues are suspended, as generally occurs in August, because so many investors are not at their registered addresses and out of touch with their banker's pass books and other papers usually consulted when an investment is in contemplation. Moreover the prospectus of an issue looks ill unless it contains the customary announcement that the lists will be closed on a date not more than three days ahead. If a longer period is allowed the public are apt to infer that the promoters are in doubt as to the number and eagerness of applicants and this argues badly for the excellence of the bargain offered. But the third day is as early as an investor away from home would be likely to receive a prospectus if it reached him at all, so the wisdom of postponing offers of new capital issues during the holiday season is a well-recognised thing. On this occasion, in spite of all that is heard of understandings among financiers to cease issuing, it is more than probable that the postponement will be, if anything, shorter than usual, because borrowers who either will not or cannot wait are numerous and insistent and ready to offer better and better terms until established stocks look dear, even at the present low level of prices, which is very perturbing to their holders. During the lull those interested have taken steps to push up quotations quickly, one might almost say surreptitiously, for the movement has been based on a minimum of transactions, and often on none at all. In this policy they have of course been much assisted by the progress towards peace in the Balkans, and that the policy is being very widely followed may be seen by the rises recorded in foreign securities and international stocks under like conditions. It must, however, be remembered that after the war comes the reckoning, and if the markets are not to be smothered under a flood of new issues when that begins, a great deal of very careful management and co-operation must be exercised.

The first day we have to deal with on this occasion is Tuesday last, when the markets re-opened after the holidays in a refreshed and exuberant mood. French Rentes were marked up no less than 3 points. Hungarians, Russians, Italians, Bulgarians, Japanese, Rio Tinto Deferred, were also higher in most of the stocks quoted here. Consols rose  $\frac{1}{2}$ . Home rails showed several tentative advances. Canadas and Trunks received attention, but the revenue statement of the National Railways of Mexico, showing traffic receipts of less than half those of 1912, had a depressing influence. The next day similar conditions prevailed accompanied with increased confidence. Better reports of growing crops benefited United States Railways, while the Argentine lines were affected by a rise in the price of wheat. Home rails continued to spread to Canadian railways, but Consols and Home rails German threes rose  $\frac{1}{2}$ ; Hungarian fours and Portuguese fives the same. Home rails continued to be left out in the cold.

Prices on Friday remained generally good during the morning, but indications of irregularity began to appear during the afternoon. Consols were  $\frac{1}{2}$  lower on the day and India  $\frac{3}{4}$  per cent. the same amount. Foreign and international securities ceased their advance, though the 40 per cent. preference of the Home rails showed some irregularity, the rises and falls in the active list being about even in number and none of them large in amount. The market for the Home rails continued to be over three-and-a-half millions in imports, were all that the market could absorb. The shadow already cast of the impending settlement next week. United States railways were for the most part firm, but Canadas, Trunks and Mexicans declined, Trunks

which provided nothing better for the stockholders in spite of an expansion in gross receipts exceeding half a million sterling. The movements of the week are as follow:

Name of Stock.	Rise.	Fall.	Name of Stock.	Rise.	Fall.
<b>British Funds.</b>					
Consols, 2½ per cent.	—	—	<b>American Railways.</b>		
Do. (acc.) 2½ per cent.	—	—	Achison Common ..	—	—
<b>British Railways.</b>					
Barry Deferred .....	—	—	Baltimore and Ohio ..	—	—
Caledonian .....	—	—	Chesapeake and Ohio ..	—	—
Do. Pref. Con. Ord. ....	—	—	Chicago Gt. Western ..	—	—
Do. Def. Con. Ord. ....	—	—	Chicago Mil. & S. Pac. ..	—	—
Central London .....	—	—	Denver & Rio Grande ..	—	—
Do. Deferred .....	—	—	Do. Preferred .....	—	—
City and S. London .....	—	—	Erie Common .....	—	—
East London Con. ....	—	—	Do. 1st Preference .....	—	—
Great Central Pref. ....	—	—	Do. 2nd Preference .....	—	—
Great Eastern .....	—	—	Illinois Central .....	—	—
Do. Nthn. Pref. Con. Ord. ....	—	—	Louisville & Nashville ..	—	—
Do. Def. Con. Ord. ....	—	—	Missouri Kan. & Tex. ....	—	—
Great Western .....	—	—	New York Central .....	—	—
Hull and Barnsley .....	—	—	N.Y. Ont. & Western ..	—	—
Leamington & Yorksh. ....	—	—	Norfolk & Western .....	—	—
London, Br. & S. Coast ..	—	—	Do. Preferred .....	—	—
Do. Deferred .....	—	—	Pennsylvania .....	—	—
London Chat. & Dover .....	—	—	Reading Common .....	—	—
London & N. Western .....	—	—	Southern Pacific .....	—	—
London & S. Western ..	—	—	Do. Preferred .....	—	—
Do. Def. Con. ....	—	—	Union Pacific .....	—	—
Metropolitan .....	—	—	Do. Preferred .....	—	—
Metropolitan District ..	—	—	<b>Foreign Railways.</b>		
Midland Pref. Ord. ....	—	—	Antofagasta Def. Ord. ....	—	—
North British Pref. Ord. ..	—	—	Argentine Gt. Western ..	—	—
Do. Def. Ord. ....	—	—	Buenos Ayres & Pac. ....	—	—
North Eastern Cons. ....	—	—	Buenos Ayres Gt. Strn. ....	—	—
North Staffordshire .....	—	—	Buenos Ayres Western ..	—	—
South Eastern .....	—	—	Central Argentine .....	—	—
Do. Deferred .....	—	—	Do. Deferred .....	—	—
Tatn Vale .....	—	—	Cent. Uruguay of Mont. ....	—	—
<b>Colonial Railways.</b>					
Underground Electric ..	—	—	Cordoba Cent. Ord. ....	—	—
Do. 4½ p.c. Bonds .....	—	—	Do. 1st Pref. ....	—	—
Do. 6 p.c. Bonds .....	—	—	Cuba Central .....	—	—
<b>Bank Return.</b>					
Canadian Pacific .....	—	—	Leopoldina .....	—	—
Grand Trunk of Canada ..	—	—	Mexican Ordinary .....	—	—
Do. 4 p.c. Guaranteed ..	—	—	Do. 1st Pref., 8 p.c. ....	—	—
Do. 1st Preference .....	—	—	Do. 2nd Pref., 6 p.c. ....	—	—
Do. 2nd Preference .....	—	—	Nitrate Ordinary .....	—	—
Do. 3rd Preference .....	—	—	Ottoman (Smyrna to Aidin) ..	—	—
			Un. of Havana Ord. ....	—	—

### BANK RETURN.

The return of the Bank of England for the week ended Wednesday, August 7, 1913, shows the following changes:—

Aug. 7, 1913.	BANKING DEPARTMENT.	Aug. 7, 1913.	Aug. 7, 1913.	Aug. 7, 1913.
£	Liabilities	£	£	£
3,341,422	Reserve .....	8,498,505	2,512,457	—
10,937,012	Public Deposits .....	10,937,012	9,350,113	1,586,909
10,937,012	Other .....	10,937,012	10,937,012	908,691
10,937,012	7 Day Bills .....	10,937,012	13,731	2,206
1,172,372	Govt. Securities .....	1,172,372	1,172,372	—
2,190,965	Other .....	2,190,965	2,190,965	2,202,624
2,190,965	Notes and Silver .....	2,190,965	2,190,965	322,435
1,740,320	Gold and Silver .....	1,740,320	1,433,404	46,916
28,154,041	Reserve .....	28,154,041	28,154,041	—
53,84 p.c.	Ratio .....	53,84 p.c.	53,84 p.c.	—
44 p.c.	Bank Rate .....	44 p.c.	44 p.c.	—
1 p.c.	Market Rate .....	1 p.c.	1 p.c.	—
<b>ISSUE DEPARTMENT.</b>				
38,330,670	Coin and Bullion .....	37,714,440	37,714,440	616,230
56,191,440	Notes Issued .....	56,191,440	56,191,440	—
29,956,165	Circulation .....	29,956,165	29,956,165	198,027

The Mexican Railway Company, Limited, has been formed for the purpose of constructing and operating a railway line from Mexico City to the Gulf of Mexico.





### NEW RESTAURANT CARS ON THE GREAT WESTERN RAILWAY.

Some time ago the directors of the Great Western Railway decided to construct at Swindon new restaurant cars embodying features to meet certain special requirements. The first of the cars will shortly be put into service—and by the courtesy of the editor of the "Great Western Railway Magazine," illustrations of these cars are given below. The principal departure is that the dining compartment is divided into three parts by polished mahogany partitions, which are set off with mezzo-tinted photographs. In these compartments accom-

modate four persons are fixed, and on the other side there are smaller tables for two. The tables are of mahogany, covered with plate glass. In place of chairs, which for some time it has been the Company's practice to provide in dining cars, fixed seats with padded backs have been reverted to. The seats have lift-up arm-rests at the ends, affording facility for reaching the seats. The seat ends are of rosewood-tinted mahogany. A decided departure is the style of upholstery, which is of grey ribbed cloth with laces to match, whilst white antimacassars are provided for the headrests, thus giving a light



New Restaurant Car on the Great Western Railway.

feature is that the floors are of fireproof material. The entrance for passengers from the platform is through the vestibule at one end and recessed mats are laid inside the doors. The vehicle is built with flat sides, and has six-wheeled composite bogies. A great feature of the car is its smooth and easy running and altogether it constitutes an exceedingly handsome piece of work, well maintaining the prestige of the Company in this direction.

feature is that the floors are of fireproof material. The entrance for passengers from the platform is through the vestibule at one end and recessed mats are laid inside the doors. The vehicle is built with flat sides, and has six-wheeled composite bogies. A great feature of the car is its smooth and easy running and altogether it constitutes an exceedingly handsome piece of work, well maintaining the prestige of the Company in this direction.

### CRITICISM OF MODERN RAILS.

Mr. C. P. Sandberg, consulting engineer to the Swedish State Railways, in the August issue of the *South African Railway Magazine*, endorses the views which Mr. A. J. Beaton had put forward in an article headed "The Problem of the Steel Rail." Mr. Sandberg says:—"The manufacture of steel rails to-day is in many of the essential details entirely different from what it was in the early days of the Bessemer and open-hearth processes, and although many differences are in the direction of improvement, others do not tend to give as good a quality of rail, and the fault undoubtedly lies in the constant aim to increase the output and reduce the price. Rail specifications have been drawn up, definite chemical composition specified, as well as many details of manufacture, but such questions as the solidity of steel ingot, minimum of segregation, heat treatment of ingots, and the rolling temperatures have not been given the attention they deserve. It is only of recent years that these questions have been seriously considered, and good practice to obtain the best results has not been put into operation, owing to the fear of increasing the cost of production. It is, therefore, for railways who are desirous of obtaining better steel rails to meet their heavy traffic to encourage the manufacturer to make the best article and not necessarily to accept the lowest price. Railways have been disappointed with the results of the adoption of heavier rails, both as regards fractures and increased life. The cause is undoubtedly owing to the quality of the steel and the rolling temperature not having been sufficiently considered; and I am strongly of opinion that heavier rails, made of sound steel, of a hard and tough quality, rolled at the right temperature, will amply repay railways with heavy traffic, as a strong road, apart from longer life, leads to important economies in maintenance, both of track and rolling stock. I would suggest that it is by no means impossible to make rails of as good a wearing quality as the early steel rails, which engineers praise so much, with less liability to fracture, and at a lower cost than the early steel rails, if a large number of buyers systematically co-operated with metallurgists and first-class rail manufacturers."



Interior of Great Western Railway Restaurant Car

metal work, such as net brackets, blind fittings, etc., is of windows fitted along the whole length of the compartment above

## THE USE OF MOTOR-CARS IN TRACK MAINTENANCE WORK.

In the United States there is of course a much larger proportion of railway line where the traffic is light than is the case in this country. Great stretches of railway, generally single track, carry comparatively few trains, and for the purpose of maintenance of way such lines are divided into long sections. Generally speaking, the heavier the traffic the shorter the sections, but on the class of lines here referred to the sections are often a good many miles in length. This fact, especially when coupled with a sparsely-populated country, makes the problem of conveying the gangs of repair men and their tools to and from the places where they work a problem of some importance. In connection with a certain proportion of British railways, the matter is also of some interest, and we here make an abstract of information published in the *Railway Age*, of New York, in reference to the use of petrol motor-cars for the purpose instead of hand-cars.

It appears that the use of motor-cars in the maintenance of way departments has spread very rapidly within the past two years. Information is given with respect to 63 railways on which these repair motor-cars are used, detailed facts having been obtained in regard to 48. These 48 railways use 3,306 cars of this sort. From elaborate tables the following conclusions are drawn in the article referred to:—

There is no longer any question as to the value of motor-cars in the maintenance of way department. Practically every road using them reports some economy resulting from their use. The more widely extended use of these cars has not brought out any important disadvantages. In brief the arguments in favour of motor-cars in section service are, that the men arrive at the work without the fatigue due to pumping a hand-car and can spend the whole day working on the track. Gangs can be combined more quickly in case of emergencies. Men can be more easily secured and held in section work when motor-cars are provided. On account of the saving in time and energy, the length of sections can be increased. Most roads are realising that the saving should be mainly in supervision rather than in labour. Sections may be combined so as to give foremen increased territory with larger gangs, dispensing with the remaining foremen, but many men believe that the number of labourers per mile should remain the same in order to keep up the standard of maintenance. The Baltimore and Ohio Railroad estimates that a saving amounting to about £21 per year is necessary to make it economical to substitute a motor-car for a hand-car. The comparative approximate capitalised cost of the two under American conditions is estimated as follows:—

	Motor Cars.	Hand Cars.
Initial cost of car	£150	£58
Annual depreciation	£3.125	£1.166
Gasolene at 7½d. per gal.	£9.1	£0.1
Batteries at 10d. per lb.	£1.0	£0.1
Annual cost of repairs	£1.0	£0.1
Annual cost of maintenance	£1.0	£0.1
Annual cost of operation	£1.0	£0.1
Annual cost of depreciation	£3.125	£1.166
Annual cost of gasolene	£9.1	£0.1
Annual cost of batteries	£1.0	£0.1
Annual cost of repairs	£1.0	£0.1
Annual cost of maintenance	£1.0	£0.1
Annual cost of operation	£1.0	£0.1

For bridge gangs, motor cars save much time which would otherwise be wasted in waiting for local freights to move the gang from one job to another. Several roads also mention the saving in train service which is effected by distributing bridge material on motor cars.

A power car is almost a necessity for block signal maintainers, for since the signals are widely separated and the stop at each location is comparatively short, most of the time is spent on the road going from one signal to another. This situation has even led many maintainers on roads that do not furnish motor cars to buy their own cars. Some roads report that in addition to the saving in time of the men resulting in an increase in their territory, the use of motor-cars allows the gangers to answer trouble calls more promptly, which means a considerable economy on a busy line. Inspection cars for track supervisors, roadmasters and bridge and signal supervisors have evident advantages. By the use of a car more frequent inspections can be made,

a better spirit among the men.

class is so different that averages of the cost of fuel and repairs are to be considered as exact. The following table shows the minimum, average and maximum values of the cost of fuel and repairs per hundred miles and per month for each class of service reported in the table:—

	Minimum.	Average.	Maximum.
Section.....	1 8 ..	4 7 ..	10 8
Bridge.....	1 6½ ..	5 0 ..	10 8
Maintenance.....	1 8 ..	4 7 ..	10 8
Inspection.....	1 8 ..	4 7 ..	10 8
Signal.....	1 8 ..	4 7 ..	10 8
Material.....	1 8 ..	4 7 ..	10 8
Freight.....	1 8 ..	4 7 ..	10 8
Passenger.....	1 8 ..	4 7 ..	10 8
Section.....	3 8 ..	4 4 ..	5 2½
Maintenance.....	3 8 ..	4 4 ..	5 2½
Inspection.....	3 8 ..	4 4 ..	5 2½
Signal.....	3 8 ..	4 4 ..	5 2½
Material.....	3 8 ..	4 4 ..	5 2½
Freight.....	3 8 ..	4 4 ..	5 2½
Passenger.....	3 8 ..	4 4 ..	5 2½

It must be remembered that a section car, for example, may mean a low-power car capable of carrying four to six men over light grades, or it may be one that handles 15 to 20 men on heavy grades. The signal maintainer's cars are all light cars, which probably accounts in large measure for the very low cost of fuel for these cars which is shown in the above table. To secure a fair comparison of performance between cars the costs of operation should be figured on a ton mileage basis, but most roads have not attempted such an accurate study of the performance of their cars. On one road, which is conducting extensive experiments on gasoline propelled cars, it has been found that a section car carrying six to eight men can operate for about 2s. 2d. to 2s. 6d. per 100 miles for gasoline alone, which is equivalent to 2s. 8½d. to 3s. per hundred ton miles.

The most important question to be considered by a road before the adoption of motor cars is the type which is best suited to the conditions to be met. The growing demand for cars has led to the design of numerous small engines which are adapted to installation on old hand-cars. A number of roads have tried this expedient and general satisfaction is reported. One of the principal arguments in favour of the converted hand-car is its low cost. The advocates of motor-cars proper point out, however, that if the full value of the hand-car is added to that of the applied engine, the cost is not so far below that of a motor-car of equal power. The hand-car has the advantage over most motor-cars that it is lighter, making it easily removable from the track, an item of considerable importance when section forces are reduced during the winter. On the other hand, motor-cars are more rigidly constructed, and the frame is probably better adapted to stand the service which such a car receives.

For the sake of simplicity, motor-cars are frequently built with a single speed. Considering the class of men who have to operate them, this is probably advisable in most cases. One road in this report mentions the fact, however, that a variable speed engine is more suitable for inspection, allowing the inspector to examine the track carefully at points where such inspection is needed and to run faster when he is not inspecting, thereby effecting a considerable saving in time.

The manufacturers of motor-cars are continually improving their products, and a number of general tendencies are noticeable. More steel frame cars are being placed on the market than ever before, a recent development of this type being the welded frame which eliminates rivets. The wheels used on the cars are not as large as those of the

more than 20 miles an hour. As a few of the most serious accidents are caused by cars being run at too high a speed, it would seem advisable to place some restriction on the speed.

## THE CHANNEL TUNNEL SCHEME.

A DEPUTATION OF MEMBERS OF THE HOUSE OF COMMONS.

A deputation of members of the House of Commons waited upon the Prime Minister on Tuesday with the object of urging upon the Government the desirability of reconsidering the question of giving Government support to the construction of the proposed Channel tunnel. The deputation consisted of some dozen Members of Parliament, including Mr. Arthur Fell, Mr. Russell Rea, Mr. T. P. O'Connor, Mr. J. R. Clynes, Mr. J. Parker, and Mr. Rawlinson, K.C.

Mr. FELL, who introduced the deputation, said that a number of members of the House of Commons who had interested themselves in the question of the construction of the Channel tunnel had formed themselves into a committee, and the result was that there had been a spontaneous movement on the back benches in favour of the construction of the Channel tunnel. The deputation had not been engineered in any way by the railway company or the old Tunnel Company, nor were any of the deputation and the members represented by it interested in any shape or form in the scheme; they were interested solely as men of the world, and they wished to have, if possible, this tunnel constructed in the belief that it would confer enormous benefits on the commerce of this country and also upon our friends in France. The members of the deputation had nothing whatever to gain by it except that they believed that it would be for the good of the country and for trade, and also in regard to our relations with France. The committee and those whom it represented were entirely non-party, and an endeavour had been made to keep it as nearly as possible evenly balanced as between the representation of the different parties in the House, although there happened to be a few more Liberal members upon it than Conservatives. In addition to Liberals and Conservatives, the Nationalists and the Labour Party were represented. The reasons for coming before the Prime Minister were, first, that it was considered that the question of food supply in this country in time of war was now much more urgent than it was thirty years ago, when the tunnel was first under consideration. Looking through the report of the evidence taken thirty years ago, he noticed, that this question was never once raised, and it was now felt that the tunnel would give another source of supply in the event of war with any other country except France, and the knowledge that food could be obtained from the Continent if the overseas trading routes were closed to our ships would tend to avoid panic and panic prices. Further, the development of air navigation had altered our position as an island, and above and beyond all this, it was considered that our friendship with France, which had stood the test of 68 years under varying conditions, was now assured, and the deputation desired to cement this friendship for all time. The suggestion that our communications with France should not be improved for fear of invasion by the French was felt to be unworthy of us as a nation. Again, military opinion on the subject had greatly changed, and the Government was now urged to support the proposal providing the military requirements could be carried out. He believed that the engineers of the tunnel scheme would be able to satisfy the War Office authorities on this point, although, as already stated, the deputation did not advocate the interests of the Channel Tunnel Company. It was simply desired that

it should be built by the two Governments, or by the Channel Railway Company in conjunction with the railway companies in the two countries. The Chairman of the South Eastern Railway Company had written to the Committee to the effect that so far as the Channel Tunnel Company, acting

more than one occasion, Mr. Rothschild had assured the Committee that the money for the construction of the tunnel

would be forthcoming without difficulty, it being found equally in France and in England. The exact words used by Mr. Leopold de Rothschild in a letter received only that morning, were: "You can of course rest assured that what I stated at the Committee meeting is true, and that the money can easily be found for the tunnel." That was of course provided it was made by private enterprise. The engineers had estimated that for the double tunnel the total cost would be £16,000,000, which would be £8,000,000 for this country, half in shares and half in debentures, and £8,000,000 for France. That, however, would only be required gradually extending over six or seven years. The Channel Company, in that case would be working, provided the Government permitted it, with the Northern Railway Company of France, which was perhaps the most successful railway company in the world, paying exceedingly high dividends. Sir Douglas Fox and Mr. Francis Fox, the English engineers, were in agreement with the French engineers on the estimates. He therefore hoped that the Prime Minister would give an assurance that the Government had abandoned the *non possumus* attitude which had been previously maintained, and that it would permit this work to be carried out. If this were done the Government would be assisting in the most useful and beneficial enterprise undertaken in this generation.

Mr. RUSSELL REA said that from what had been said by Mr. Fell, there would be no difficulty in arranging the financial part of the scheme, as apparently the financiers were prepared to take the risk, upon their engineers' advice. The only obstacle was the veto of the British Government. When the subject was raised in 1883 he remembered what a panic was organised, but at that time he had the advantage of hearing Mr. Gladstone express a strong personal opinion in favour of the enterprise and declared that he did not share the alarms which had been raised. It was a military question now, and the deputation were for the most part laymen, but there were some questions which were so simple that even the most inexperienced amateur could not fail to observe the inevitable conclusion, and the problem of the defence, or if necessary the destruction, of a 30-mile tunnel now seemed to be one of comparative simplicity, especially when one remembered that Continental nations had already pierced their frontiers by innumerable railway tunnels satisfactorily as regards any question of military objections. He never felt more humiliated than when he heard, as he frequently did, the most contemptuous criticism of our French friends on this subject.

The PRIME MINISTER said that Lord Wolseley's opinion was also against the scheme, and he did not like to smile when he thought of his opinion.

Mr. RUSSELL REA said that he hoped at any rate the Prime Minister did not share these alarms under present conditions, and he hoped that these perfectly unjustifiable fears would not be allowed to go.

Mr. T. P. O'CONNOR and Mr. JAMES PARKER also spoke.

Colonel YATE said that he was formerly an opponent of the scheme on the military question, but circumstances had altered so much during the last few years that the advantage of being able to obtain a certain supply of food in time of war through the tunnel might possibly be greater than the disadvantage of the loss of our insular position. It was for this reason that he now joined in expressing the hope that the question would be given full consideration by the Government. In former days our Navy was so strong that we never dreamed for one moment that we should lose the command of the Channel, but now, what with flying machines and submarines, we did not know whether the Channel might be closed at any moment in time of war, and we did not even know that we could guarantee the passage of a ship from Dover to Calais.

Mr. ASQUITH, in replying to the deputation, agreed with Mr. Fell that the members of Parliament which the deputation represented seemed to be almost evenly representative of different parties in the House. Although the number of names supplied to him was only a comparatively small proportion of the total number of members, and the numbers out of a total of 670—more supporters could no doubt have easily been obtained, he felt that they were a representative group, and that the deputation was a very important one, entitled to receive a serious consideration. The deputation had not touched upon the history of this project, for it had a history, and a very remarkable one. From the early days of this project it was favoured both by the French and the English Governments, and as far back as 1874 the Foreign Office of this country expressly approved, he would



the military aspect of the matter was gone into, that doubts were entertained. Finally, in 1883, largely in consequence of the report of the Joint Committee of both Houses, presided over by Lord Lansdowne, the Government came to the conclusion that the interests of this country would not be promoted, but might be seriously hazarded, by the carrying out of any such scheme. This opinion was largely founded on military considerations, and amongst other authorities - and there had been no greater in our time in military matters - the late Lord Wolsley from the first to the last was a most determined opponent of any project for piercing the Channel with a tunnel, and destroying what he regarded as the security of this country. What had been the result? It was from that time, 1883, this scheme had been opposed, and resolutely opposed, by every Government which had held office. Bills for the sanction of the tunnel were rejected on the motion of the Government almost every year from 1883 to 1894. The last division was taken at the instance of Sir Michael Hicks-Beach, President of the Board of Trade, in 1890, when the Bill was rejected, and in the following years from 1891 to 1894, the Bills were either rejected or withdrawn without any division at all. Finally the late Sir Henry Campbell-Bannerman, after the matter had been considered by the Committee of Defence in March, 1907, announced the decision of his Government, which was in accordance with the action which had been taken by all his predecessors for some previous 24 or 25 years, so that the deputation was now asking that the decision so arrived at, and persistently adhered to, by successive administrations, should be reversed, and he had hoped and rather expected that the deputation would have produced that day some evidence that, apart from the general considerations, with which everyone was familiar, as to the importance of maintaining close relations with our neighbours across the Channel, and the importance of rendering our food supply safe in peace and in war, military opinion had altered since the time of the late Lord Wolsley. He had great respect for what Colonel Yates had said, and the question was really whether we had an invincible Navy and command of the sea, for as long as we had that our food supply ought to be secure. He agreed, however, that that in itself did not conclude the matter, but when the deputation asked him and the Government to which he belonged to reverse the considered decision of their predecessors for a quarter of a century, that was a matter which was not to be lightly undertaken. There were, he agreed, new factors in the case. One of them, and perhaps the most hopeful and most important, was the establishment on a solid, and as he believed unshakable, basis of our friendship with France. There was of course in the apprehensions of Lord Wolsley and those who adopted his view a potential enemy whose power of offence and progression would, or might, be assisted by the construction of the tunnel, and that enemy was France. He was glad, however, that the possibility of such an enemy had faded away through our excellent and cordial relations with France since the agreement of 1904. But there were other factors with regard to naval and military warfare which must receive consideration, and he might say that, quite apart from this deputation and the formation of the Committee which the deputation represented, the matter had already received the attention of the Government, Communications had passed and were passing from time to time between the various departments concerned, and it was necessary in his opinion that all these large strategical questions should from time to time be reviewed in the light of new facts by their best expert authorities - in this case the Committee of Imperial Defence - in order that the Government, with whom the ultimate responsibility rested, should be able to consider in the light of existing conditions what were the best results for the country in the matter. The result in this case he could not anticipate, because he had not the evidence before him upon which to found a judgment, and he did not think he could say more than that the matter was engaging the serious attention of the Government, and it would be approached with unbiassed minds - although of course with proper deference to the long chain of authority which in this case had supported a particular conclusion. But nevertheless with unbiassed minds and with a single desire to secure on the one hand the absolute strategic safety of the country, and upon the other hand the largest and freest possible outlet for trade and inlet for supplies of food and raw material upon which our industries so largely depend.

## MOTOR TRANSPORT IN SOUTH AFRICA.

Transport in South Africa, with Special Reference to the Organisation of Services Connected with the Railway System."

In London, made the following reference to rail cars:

In many cases the railway lines in South Africa are "designed for running an ordinary train daily or even tri-weekly is excessive considering the amount of revenue earned, and the solution of the difficulty appears to be the employment of internal combustion engine motor cars running on the rails to carry the few passengers requiring transportation, and the running of a goods train only when a full load is available. In many other services, such as parcel trains, specials, inspections and sandwiching in with local trains at rush hours, internal combustion rail cars would appear to be eminently suitable. Several systems have been tried, but these have not all "made good."

It is surprising that this should be so, as the system can claim so many advantages, among which may be enumerated: (a) economy in staff, as the fireman can be dispensed with; (b) the abolition of costly water supplies and the expensive pumping stations; (c) supplies of fuel, water and oil can be carried sufficient for at least twenty-four hours, running without need of replenishment; (d) saving of time in not taking water or running to a depot for coal; (e) light axle loads and the corresponding economy in track maintenance where rails of light section are used; (f) no dead weight is represented by the locomotive, the paying load being used to supply the weight necessary for adhesion.

In spite of these initial advantages the right type of vehicle has apparently yet to be evolved. In the Johannesburg district a very large parcel traffic is dealt with, and in order to avoid delays to passenger trains a special parcel train has been instituted, and for this purpose a rail car is used, thus forming a complete chain of motor services. The parcels are collected by motor lorries, transported by motor rail car, and, where possible, delivered to the destination by use of motor lorries. The parcel rail car has attached to it an 18-ton bogie luggage van, while the car itself is fitted up for native passengers and a parcel compartment. The rail car weighs 27 tons and is driven by a 100 h.p. Leyland engine, the transmission being the recently introduced "Thomas Transmission." Generally speaking the best and most economical results have been obtained with this system, but several minor and easily avoidable defects, such as faulty commutation, have caused the rail car to be taken off its run on various occasions. This is unfortunate, as the transmission system (the novel part of the equipment) has given least trouble, and I am of opinion that this system is the greatest advance that has been made in recent years in the application of internal combustion engines to rail vehicles.

The internal combustion engine also plays an important part on the South African railways in the form of inspection motor trolleys. Divisional officers and engineers find that their executive and inspecting duties can be carried out in a manner quite impossible before these useful machines were constructed. A large number of these machines have been designed and built in the railway workshops, the principal features of the design being: (1) seating for four passengers; (2) travels equally fast in either direction at up to 30 m.p.h.; (3) weighs between 800 and 1,000 lbs.;

strain or damage; (4) the engine is set in a frame which is bolted to the frame to ensure stability in rounding curves, and to prevent the stones and to avoid, in the latter case, the use of a truck.

short wheel base to ensure easy running, etc. etc.

cost considerably less than by hand.

**Grand Trunk Railway.**—It is reported from Cornwall that the Grand Trunk Railway Company is preparing to double track the line from Montreal to Ottawa, and which the Grand Trunk Railway will also operate. The new Grand Trunk Railway is completed to Cochrane Junction, Ontario. With this in view, negotiations are now taking place in order to connect the Montreal and Ottawa and New York Railway between Cornwall Junction and Montreal, a distance of 200 miles. Running power will be a well give the Grand Trunk a shorter route from Montreal to Ottawa, and it will give another outlet from Ottawa to Montreal. If these running powers are obtained, the double tracking of the present route would not be required, at any rate for the present.

# DIVIDEND ANNOUNCEMENTS.

**GLASGOW DISTRICT RAILWAY.**—The directors recommend an interim dividend at the rate of 4 per cent. per annum on the ordinary stock, being at the rate of 2½ per cent. per annum on the deferred ordinary stock, payable on August 30.

**GLASGOW AND SOUTH WESTERN RAILWAY.**—The directors have declared an interim dividend at the rate of 4½ per cent. per annum on the ordinary stock, being at the rate of 2½ per cent. per annum on the deferred ordinary stock, payable on August 30. A year ago the dividend on the deferred was at the same rate. The dividends for the past ten years on the deferred stock are appended:—

**COCKERMOUTH, KESWICK AND PENRITH RAILWAY.**—An interim dividend at the rate of 1½ per cent. per annum on the ordinary stock for the half-year ended June 30 last has been declared. A year ago the dividend was at the rate of 1¼ per cent. per annum.

**CARDIFF RAILWAY.**—The directors have declared an interim dividend at the rate of 4 per cent. per annum on the ordinary stock for the half-year ended June 30. This compares with 3 per cent. per annum for the corresponding period of last year and 5 per cent. per annum for the half-year ended December 31, 1912.

**NEATH AND BRECON RAILWAY.**—After paying the interest on the first, A 1, and A 2 debenture stocks for the half-year to June 30, there remains an available balance of approximately £10,061, out of which the directors propose to pay the half-year's interest to June 30 on the B debenture stock on August 12, carrying forward approximately £5,618.

**MANCHESTER, SHEFFIELD AND LIVERPOOL RAILWAY.**—The directors announce that the net revenue of the whole undertaking for the six months ended June 30 last was £153,593, against £133,026 for the first half of the preceding year, being an increase of £20,567. The gross receipts of the Ship Canal Department were £30,656 larger.

**CARDIFF RAILWAY.**—Interim dividends have been declared for the half-year ended June 30 last at the rate of 4 per cent. on the ordinary stock, 3 per cent. on the second preferred ordinary shares and 1 per cent. on the ordinary shares, carrying forward £3,805. A year ago no dividend was paid on the ordinary shares.

**GUEST, KEEN AND NETTLEFOLDS, LIMITED.**—The directors recommend the payment of final dividends as follows:—On the preference shares at the rate of 5 per cent. per annum for the half-year ended June 30, and on the ordinary shares at the rate of 10 per cent. per annum for the half-year ended June 30, together with a bonus of 1s. per share on the ordinary shares, all free of income tax.

**BRECON AND MERTHYR RAILWAY.**—The directors have issued the following notification of the half-year's working to June 30, 1913:—Gross receipts, £68,258; increase, £13,640. Expenditure, £64,637; increase, £10,150. The balance available for dividend after paying fixed charges and debenture stock interest, is £6,207, against £11,111 for the corresponding period of 1912. The directors have decided to carry forward this balance to the end of the year.

**SHEFFIELD DISTRICT RAILWAY.**—The net revenue for the half-year ended June 30 shows a balance available for dividend of £5,220, which includes a balance of £446 brought forward from the previous half-year. The directors recommend the payment of the full dividend on the preference shares, also of a dividend at the rate of 2 per cent. per annum on the ordinary shares, carrying forward £720 to the next account. A year ago the dividend on the ordinary shares was at the rate of 1½ per cent. per annum and £376 was carried forward.

**EAST AND WEST YORKSHIRE UNION RAILWAYS COMPANY** for the past half-year have declared the full dividend on the 4 per cent. preference stock at the rate of 2 per cent. per annum on the ordinary shares, carrying forward £720 to the next account. A year ago the dividend on the ordinary shares was at the rate of 1½ per cent. per annum and £376 was carried forward. For the first half of 1909 the dividend was paid on the preference stock, £2,000 being carried forward.

**GLASGOW DISTRICT RAILWAY.**—The directors recommend an interim dividend at the rate of 4 per cent. per annum on the ordinary stock, giving the preferred converted ordinary stock the

rate of 2½ per cent. per annum on the deferred ordinary stock, payable on August 30. A year ago the dividend on the deferred was at the same rate. The dividends for the past ten years on the deferred stock are appended:—

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
1st Half	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½
2nd Half	—	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½
Ann. Rate	—	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½

**NORTH BRITISH RAILWAY.**—The directors, having made an approximate balance of the accounts of the company as at June 30 have resolved to declare and pay thereout an interim dividend at the rate of 3 per cent. per annum for the first half of the year on the preferred ordinary stock. The directors do not consider it desirable to declare an interim dividend on the deferred ordinary stock at a less rate than that of 1 per cent. per annum, and the approximate balance is not sufficient to permit the payment of this dividend for the month of July in the first half of the year under the Railway Companies (Accounts and Returns) Act, 1911, is responsible for a reduction in the available net revenue of not less than £100,000 for the half-year, and the loss thus incurred in the first half of the year will be gained by the second half. Dividends will be payable on September 3. The dividends for the past ten years are appended:—

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
1st Half	3	3	3	3	3	3	3	3	3	3	3
2nd Half	—	3	3	3	3	3	3	3	3	3	3
Ann. Rate	—	3	3	3	3	3	3	3	3	3	3

**FURNESS RAILWAY.**—The directors have declared an interim dividend at the rate of 2 per cent. per annum on the ordinary stock for the half-year ended June 30. For the corresponding period of 1912 there was no dividend. The gross receipts for the half-year, including balance brought forward, were £327,218, and the expenditure was £102,311. For 1912 the gross receipts were £203,052 and the expenditure £156,422. The balance available for dividend after paying debenture, guaranteed preference, and fixed charges was £27,072. The warrants will be posted on August 22.

The dividends for the past ten years are appended:—

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
1st Half	2	2	2	2	2	2	2	2	2	2	2
2nd Half	—	2	2	2	2	2	2	2	2	2	2
Ann. Rate	—	2	2	2	2	2	2	2	2	2	2

## RAILWAY DIVIDENDS DEF.

Almost all the British railways have now announced interim dividends for the first half of the current year, and the dates on which these will be paid are as follows:—

Company.	Payable On.
Taff Vale	Aug. 15
Central London	Aug. 15
London Electric	Aug. 15
Metropolitan District and Great Northern	Aug. 15
London, Chatham and Dover	Aug. 15
London and South Western	Aug. 15
London and North Western	Aug. 15
London, Brighton and South Coast	Aug. 15
Portsmouth and Southampton	Aug. 15
Great Central	Aug. 15
Manchester and Liverpool	Aug. 15
North Eastern	Aug. 15
York and North Yorkshire	Aug. 15
Midland Great Western	Aug. 15
North British	Aug. 15





# GENERAL NEWS.

## THE ROAD BOARD.

Mr. Inst. C.E., the county surveyor of Kent, as chief engineer to the Board. Colonel Crompton, C.B., will continue to act, as he has hitherto done, as consulting engineer. Mr. Maybury will commence his new duties as soon as the Kent County Council fill the vacancy in the post of county surveyor, which will probably be in the month of November next.

The Road Board have also added to their Engineering Advisory Committee Mr. E. Parnell Hooley, the county surveyor of Notts, and Mr. Alfred Dryland, the County surveyor of Surrey.

## THE NEWBURGH RAILWAY CASE.

The First Division of the Court of Session, Edinburgh, with seven Judges sitting, gave their decision on July 17 in an appeal by the North British Railway Company in the case which was brought against them by the Newburgh and North Fife Railway Company before the Railway and Canal Commission. The action arose on an agreement which was made in 1897 between the promoters of the Newburgh and North Fife Railway Company and the North British Railway Company, by which it was provided that the defenders were to work and manage the Newburgh Railway in a proper, safe, and convenient manner, and so as to fairly develop the traffic under their control from whatever source arising whenever that railway should form the shortest route for such traffic. The Newburgh Railway Company asked an order to prevent the defenders violating the agreement by diverting from the Newburgh Railway to their own railway and routes traffic for which the Newburgh Railway forms the shortest route. They also claimed damages from the defenders. The Railway and Canal Commission found that the amount of paid-up share capital of the Newburgh Company towards payment of dividend on which the defenders were bound to contribute was £180,000, making, with a debenture issue of £60,000, a total of £240,000. The Commissioners also declared that the Newburgh Company were entitled to an inquiry as to what damages, if any, they had sustained through the defenders' failure to implement the agreement. The defenders were also found liable in costs. The North British Company were now appealing against the order of the Commissioners in so far as it declared the amount of paid-up capital of the Newburgh Company towards payment of dividend on which the defenders were bound to contribute to be £240,000, and also in so far as it found them liable in costs.

The Court, by a majority of four to three, found that the order of the Commissioners was wrong, and that their declaration that the appellants had to pay dividend upon £180,000 should be recalled. The North British Company were allowed the expenses of the appeal and the North Fife Company the expenses before the Commissioners.

## TABLE MOUNTAIN RAILWAY PROJECTS.

In September last Mr. H. H. Peters, a mountain railway expert, of Zurich, visited South Africa, at the invitation of the Cape Town Council, for the purpose of advising as to the best means of constructing a railway to the summit of Table Mountain. Careful surveys were made, with the view to the selection of the most feasible routes, and plans have been completed for two alternative schemes. One of these provides for a funicular railway, starting from Rocklands, and the other for a rack and pinion line, starting from Kloof Nek. The former would be an open line for almost the whole distance, but the rack and pinion line would include several tunnels. A tramway would have to be constructed to Rocklands, the starting point of the funicular line. The terminus would be at the top of the gorge, and a short distance before reaching the summit the line would pass through a tunnel about 270ft. in length. The rack and pinion railway would start from Kloof Nek, and a little less than a mile from the starting point would go through a tunnel about 450ft. long. There would be a second tunnel nearly 100ft. in length, and a third of 175ft. The time required for the journey to the summit by the funicular railway would

## RE OPENING OF INVERGARRY RAILWAY

closed about two years ago, was reopened on August 1 by the North British Railway Company. The line, which connects Spean Bridge, on the West Highland Railway, with Fort Augustus, is about 25 miles long, and was completed

which had promoted it, but the results were far from remunerative. The district is a remote and mountainous one, and the population is sparse. Subsequently both the Highland and North British Railway Companies conducted the traffic, but neither of them managed to earn enough to pay working expenses, and each in turn gave up the task. As a last resource the directors resolved to scrap the line, and a number of tenders were made for the rails, ironwork and other plant. To prevent this the Board of Trade was approached, and Parliament was asked to intervene, but no favourable result followed. Meetings of protest held throughout the district proved equally ineffectual, as did also the efforts of several county gentlemen. At length the Inverness-shire County Council raised an action in the Court of Session to interdict the company from dismantling their line. Success attended the County Council's action, whereupon the proprietors of the line threatened to appeal to the House of Lords. Negotiations were entered into between the North British and Invergarry Railway Companies for an out-and-out sale of the railway to the former, and eventually terms were adjusted. The Invergarry Company wanted £25,000, and the North British Company offered £20,000,

would be raised locally, and part of it has already been obtained. The service which is now being given consists of three trains each way daily, but this will be liable to curtailment in winter. As the West Highland Railway is also worked by the North British Railway Company, and as there is a junction at Spean Bridge, the operation of the Invergarry line is quite convenient.

## RAILWAY CLASSES AT THE SCHOOL OF ECONOMICS.

An interim report on the Railway Department of the London School of Economics and Political Science gives the following results of examinations for the Session 1912-13, arranged in order of merit.

Names of holders of the Brunel Medal are printed in italics; each dagger indicates a first class taken previous to 1910; and each star indicates a first class taken in or after 1910.

1. R. G. Hews, G.W.R. 2. A. J. Kemp, Mid. R. and \*\*A. J. Thomas, G.N.R. 3. \*\*W. E. Walling, G.W.R. 5. C. F. Bettendge, G.W.R.; \*H. A. Clarke, G.W.R.; \*\*D. Cousin, G.W.R., and P. Heaton, Mid. R. 6. R. R. Payton, Mid. R. 10. S. A. Wayth, G.N.R. 11. \*\*E. de G. Marett, G.W.R. 12. A. V. Cullington, G.C.R. 13. G. W. Dawson, N.E.R., and H. E. Saberton, Mid. R. 15. T. K. Tucker, G.W.R. 16. \*\*G. D. H. Jackson, G.E.R. 17. W. N. Connah, G.W.R. 18. W. H. Dark, Mid. R. 19. A. R. Shaver, L. & S.W.R. 20. J. E. Cooper, Mid. R. 21. A. C. Storer,

stone, Mid. R. 24. B. W. Timewell, Mid. R. 25. L. E. Mount, G.W.R., and F. P. Norman, G.W.R. 27. H. Keane,

G.W.R. and F. J. Shepherd, L. & S.W.R. 31. R. Jones, L. & S.W.R. 32. \*\*G. Price, G.E.R. 33. F. John, S.E. and C.R. 34. H. E. Jury, S.E. & C.R. 35. E. T. Jones, Mid. R.

G.W.R. 2. W. B. Morris, G.C.R. 3. L. O. Watts, S.E. and C.R. 4. \*F. J. Lee, G.W.R.









## RAILWAY STOCK AND SHARE LIST.

### HOME RAILWAY ORDINARY STOCKS.

[illegible]

### Debenture Stocks.

Alexandra Docks and Railway.....	4½	81	96
Barnes and Merton A.....	1	72	82
Barnes and Putney B.....	1	80	86
Barnes and Putney C.....	1	101	107
Camden A.....	4	93	90
Canal B.....	1	79	81
Canal C.....	1	72	74
Canal D.....	1	41	44
Canal E.....	3	62	72
Canal F.....	4	97	91
City and South London Perpetual Charity and Workington Junction.....	1	92	99
East London A.....	4	91	95
East London B.....	4	49	50
East London C.....	4	23	23
East London D.....	4	13	13
East London E.....	4	78	83
Do. Whitechapel Extension.....	4	57	59
Forth Bridge.....	1	97	99
Glasgow and South Western.....	4	100	102
Glasgow Central.....	3	121	125
Glasgow Do.....	4	82	88
Glasgow Do.....	4	99	101
Glasgow Do.....	4	98	100
Glasgow Do.....	4	97	99
Glasgow Do.....	4	101	105
Do.....	4	105	107
Do.....	4	124	129
Do.....	4	66	64
Do.....	4	91	101
Harbour and Railway Act.....	3	71	75
Isle of Wight Central A.....	4	95	97
Isle of Wight B.....	4	67	67
Isle of Wight Central A.....	4	67	67
Isle of Wight B.....	4	73	73
Isle of Wight C.....	4	75	75
Isle of Wight D.....	4	105	107
London Brighton and South Coast.....	4	89	115
London Brighton and South Coast.....	4	107	115
London Brighton and South Coast.....	4	105	105
London Brighton and South Coast.....	4	84	89
London Brighton and South Coast.....	4	91	92
London Brighton and South Coast.....	4	70	72
London Brighton and South Coast.....	4	82	82
London Brighton and South Coast.....	4	91	91
London Brighton and South Coast.....	4	75	75
London Brighton and South Coast.....	4	75	75
London Brighton and South Coast.....	4	85	85
London Brighton and South Coast.....	4	81	81
London Brighton and South Coast.....	4	82	82
London Brighton and South Coast.....	4	91	91
London Brighton and South Coast.....	4	65	65
London Brighton and South Coast.....	4	21	21
London Brighton and South Coast.....	4	15	15
London Brighton and South Coast.....	4	80	82
London Brighton and South Coast.....	4	77	77
London Brighton and South Coast.....	4	79	79

### Debenture Stocks (continued)

	1974	1975
Port Talbot Railway and Docks ...	4	95
South Eastern Perpetual .....	4	97
Do. ....	5	122
Do. ....	8	84
Do. ....	3	72
Tad Vale .....	3	72
Tottenham and Forest Gate .....	4	95
Whitechapel and Bow .....	4	95

### Preference Stocks.

ALLOTMENT OF STOCK OF THE PACIFIC COAST LUMBER CO.		
DESCRIPTION OF STOCK.	AMOUNT.	PERCENTAGE.
Alor. Docks, and Ball. 4 1/2 1st Pref. A	95	100
Do. 4 1/2 2nd Pref. A	89	99
Bayer 5, 1st Pref. Stock	117	119
Do. 4 1/2 1st Pref. A	91	100
Do. 4 1/2 2nd Pref. A	95	95
Cal. Lumber Co. 1st Pref. A	97	97
Do. 4 1/2 1st Pref. A	95	95
Do. 4 1/2 2nd Pref. A	116	116
Do. 4 1/2 1st Pref. A	90	97
Do. 4 1/2 2nd Pref. A	90	97
Do. 4 1/2 1st Pref. A	90	97
Do. 4 1/2 2nd Pref. A	90	97
Do. 4 1/2 1st Pref. A	90	97
Do. 4 1/2 2nd Pref. A	90	97
Commercial No. 1 4 1/2	25	25
Do. No. 2 4 1/2	8	10
Do. No. 3 4 1/2	1	1
Do. No. 4 4 1/2	1	1
Do. No. 5 4 1/2	1	1
Do. No. 6 4 1/2	1	1
Do. No. 7 4 1/2	1	1
Do. No. 8 4 1/2	1	1
Do. No. 9 4 1/2	1	1
Do. No. 10 4 1/2	1	1
Do. No. 11 4 1/2	1	1
Do. No. 12 4 1/2	1	1
Do. No. 13 4 1/2	1	1
Do. No. 14 4 1/2	1	1
Do. No. 15 4 1/2	1	1
Do. No. 16 4 1/2	1	1
Do. No. 17 4 1/2	1	1
Do. No. 18 4 1/2	1	1
Do. No. 19 4 1/2	1	1
Do. No. 20 4 1/2	1	1
Do. No. 21 4 1/2	1	1
Do. No. 22 4 1/2	1	1
Do. No. 23 4 1/2	1	1
Do. No. 24 4 1/2	1	1
Do. No. 25 4 1/2	1	1
Do. No. 26 4 1/2	1	1
Do. No. 27 4 1/2	1	1
Do. No. 28 4 1/2	1	1
Do. No. 29 4 1/2	1	1
Do. No. 30 4 1/2	1	1
Do. No. 31 4 1/2	1	1
Do. No. 32 4 1/2	1	1
Do. No. 33 4 1/2	1	1
Do. No. 34 4 1/2	1	1
Do. No. 35 4 1/2	1	1
Do. No. 36 4		

### Preference Stocks—

(continued).

[illegible]





# OFFICIAL TRAFFIC RETURNS.

## Barry.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,000
Goods, etc.	£1,100	£1,000
Aggregate for 31 weeks	£11,000	£10,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,000

## Caledonian.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,700	£1,700
Goods, etc.	£1,700	£1,700
Aggregate for 31 weeks	£11,900	£11,900
Miles open	1,114	1,114
Inc. this week	£1,700	£1,700

## Cambrian.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,700	£1,700
Goods, etc.	£1,700	£1,700
Aggregate for 31 weeks	£11,900	£11,900
Miles open	287	287
Inc. this week	£1,700	£1,700

## Central London.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## City and South London.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Dublin and South Eastern.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Furness.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Glasgow and South Western.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Great Central.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Great Eastern.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Great Northern.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Great Northern (Ireland).

Week ending August 2	1913.	1912.
Passengers, etc.	£15,000	£14,000
Goods, etc.	£15,000	£14,000
Aggregate for 31 weeks	£465,537	£450,000
Miles open	1,114	1,114
Inc. this week	£15,000	£14,000

## Great North of Scotland.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Great Southern and Western.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Great Western.

Week ending August 2	1913.	1912.
Passengers, etc.	£258,000	£245,000
Goods, etc.	£158,200	£152,000
Aggregate for 31 weeks	£8,768,000	£7,997,000
Miles open	1,114	1,114
Inc. this week	£19,000	£18,000

## Highland.

Week ending August 2	1913.	1912.
Passengers, etc.	£12,147	£11,000
Goods, etc.	£6,619	£6,000
Aggregate for 31 weeks	£304,572	£280,000
Miles open	1,114	1,114
Inc. this week	£12,147	£11,000

## Hull and Barnsley.

Week ending August 2	1913.	1912.
Passengers, etc.	£390	£390
Goods, etc.	£16,487	£16,487
Aggregate for 31 weeks	£505	£505
Miles open	1,114	1,114
Inc. this week	£655	£655

## Lancashire and Yorkshire.

Week ending August 2	1913.	1912.
Passengers, etc.	£162,100	£159,201
Goods, etc.	£3,779,072	£3,543,876
Aggregate for 31 weeks	£118,100	£118,100
Miles open	1,114	1,114
Inc. this week	£162,100	£159,201

## London, Brighton and South Coast.

Week ending August 2	1913.	1912.
Passengers, etc.	£99,376	£85,716
Goods, etc.	£104,466	£100,000
Aggregate for 31 weeks	£1,955,533	£1,875,134
Miles open	1,114	1,114
Inc. this week	£199,842	£185,716

## London Electric.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## London and North Western.

Week ending August 2	1913.	1912.
Passengers, etc.	£256,000	£247,000
Goods, etc.	£156,000	£152,000
Aggregate for 31 weeks	£9,390,000	£8,576,000
Miles open	1,114	1,114
Inc. this week	£256,000	£247,000

## London and South Western.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Metropolitan.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Metropolitan District.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Midland.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Midland Great Western of Ireland.

Week ending August 1	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## North British.

Week ending August 3	1913.	1912.
Passengers, etc.	£50,800	£52,000
Goods, etc.	£1,254	£1,254
Aggregate for 31 weeks	£1,254	£1,254
Miles open	1,114	1,114
Inc. this week	£1,200	£1,200

## North Eastern.

Week ending August 2	1913.	1912.
Passengers, etc.	£112,519	£117,018
Goods, etc.	£1,734	£1,734
Aggregate for 31 weeks	£112,519	£117,018
Miles open	1,114	1,114
Inc. this week	£112,519	£117,018

## North London.

Week ending August 2	1913.	1912.
Passengers, etc.	£3,406	£3,633
Goods, etc.	£4,510	£4,734
Aggregate for 31 weeks	£234,649	£234,675
Miles open	1,114	1,114
Inc. this week	£3,406	£3,633

## North Staffordshire.

Week ending August 2	1913.	1912.
Passengers, etc.	£12,400	£11,400
Goods, etc.	£16,750	£15,470
Aggregate for 31 weeks	£12,400	£11,400
Miles open	1,114	1,114
Inc. this week	£12,400	£11,400

## Rhymney.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## South Eastern and Chatham.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

## Taff Vale.

Week ending August 2	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Aggregate for 31 weeks	£11,000	£11,000
Miles open	1,114	1,114
Inc. this week	£1,100	£1,100

NOTES AND EXPLANATIONS.—The figures are for the week ending August 2, 1913, and for the corresponding week in 1912. The figures for the aggregate for 31 weeks are for the period from January 1 to August 2, 1913, and for the corresponding period in 1912. The figures for the miles open are for the week ending August 2, 1913, and for the corresponding week in 1912. The figures for the aggregate for 31 weeks are for the period from January 1 to August 2, 1913, and for the corresponding period in 1912. The figures for the miles open are for the week ending August 2, 1913, and for the corresponding week in 1912.



# OFFICIAL TRAFFIC RETURNS.

## BRITISH AND IRISH RAILWAYS, &amp;c.

[illegible]

## FOREIGN AND COLONIAL—Continued.

Railway.	Milage.		Latest Earnings Reported.		No. of Weeks.	Aggregate to Date.	
	1913.	1912.	Paid-off.	1913.		1912-13.	Incor. acc.
Salvador . . . . . b	100	100	Am. 2	27,750	—	—	—
San Paulo . . . . .	1183	1182	3.15 27	31,767	13	96,600	-27,250
Santa Empulga . . c	435	435	Jan. 1	—	4	10,316	+2,393
Linha Ext. . . . .	155	155	Jan. 1	—	13	10,352	-4,477.41
Sutlej Valley c	210	210	June 30	1,061	13	255,005	-26,079
San Indian c	1,743.	1,694	July 12	5,755.62	16	857,262	+1,535.95
Texas & Pacific . . d	113	113	Aug. 1	24,475	14M	365,507	+16,667
Temiscamata . . . b	672	672	Aug. 1	24,438	—	—	—
N. Ry. Hayco. & Cuzc. C. Co. . . . .	71	71	Jan. 1	2,241	5	71,121	-35
Rio de Janeiro . . c	73	73	Jan. 1	2,651	51	49,857	+3,338
W. of Havana a	147	147	Jan. 1	6,902	12M	29,440	+1,905
W. P. & Yacono b	112	112	Jan. 21	24,075	—	—	-1,548
Yacatan . . . . .	—	—	Aug. 2	6,143	—	1,773,963	+202,500
Yucatan & Havana c	112	112	Aug. 1	1,385	6M	80,433	-1,022

## FOREIGN AND COLONIAL RAILWAYS.

UNITED STATES RAILWAYS

Ala. G. Stth. ...	908	908	14	87.90			-87.47		-87.04		-87.15
Ala. N. O. & T. P.	528	428	1	82.00			-77.71	14M	75.50		-676.00
W. Va. G. Stth. ...	10,129	9,734	1	83.88			-1,147.2	11M	10,687.82		-9,192.172
Calif. O. & N. W.	1,416	1,076	1	80.00			-73.00	12M	1,016.63		-8,963.80
Cent. of Geor. ...	1,516	1,056	14	82.00			-72.00		1,016.63		-8,963.80
Cent. of N. J. ...	667	667	1	80.00			-65.16	11M	2,026.40		-2,501.14
Ches. & Ohio ...	1,353	1,383	1	84.00			-62.68	2	1,007.322		-1,439.84
Ches. & West. ...	1,487	1,487	1	82.00			-64.15		3,035.776		-3,222.34
Chil. Mtl. & S. ...	734	734	1	80.00			-64.75	11M	86,129.19		-1,006,144
Cin. N. O. & T.	477	477	14	78.15			-64.75				
Cil. Cin. Ch. & C.	1,182	1,182	1	80.00			-64.82	11M	31,014.34		-2,021.74
D. & R. G. ...	3,777	2,174	1	80.00			-64.82	2	1,137.50		-2,500
D. & R. G. ...	3,777	2,174	1	80.00			-64.82	2	1,137.50		-2,500
Gr. Northern ...	7,274	7,087	1	80.00			-64.82	12M	75,790.78		-12,625.43
Illinois Central	4,381	4,381	1	82.00			-64.82	11M	64,712.88		-4,013.368
Ind. & St. L.	1,029	1,029	1	81.67			-64.82	2	1,137.50		-166.145
Man. & S. ...	3,772	3,772	1	80.00			-64.82	2	1,137.50		-6,032
M. & S. T. & M.	3,772	3,772	1	80.00			-64.82	2	1,137.50		-6,032
Mex. Kan. & T.	4,381	4,381	1	80.00			-64.82	2	1,137.50		-6,032
Nass. & N. W.	1,751	1,751	1	80.00			-64.82	2	1,137.50		-6,032
N. & W. H. R.	4,381	4,381	1	80.00			-64.82	2	1,137.50		-6,032
N. Y. Ont. & W.	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
N. Y. & West. ...	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
Norfolk & West.	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
Northern Pac.	6,914	6,914	1	80.00			-64.82	11M	6,016.63		-7,714.43
P. & G. ...	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
P. & G. & San Fr.	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
St. Louis & S. W.	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
S. & S. ...	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
S. & S. ...	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
T. & N. ...	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
Wabash	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80
W. Va. & N. W.	1,361	1,361	1	80.00			-64.82	11M	1,016.63		-8,963.80

WORKING STATEMENTS AS LAST REPORTED.

Branch.		Gross Expenditures		Net Expenditures	
		Paid.	Inc. or Cr.	Paid.	Inc. or Cr.
Alabama Gl. Southern ..	May	\$171,481	8,856.66	\$162,625	\$1,792
July 1 to May 31 ..		9,988,181	3,772.26	1,135,044	22,253
Atch. Top. & Santa Fe ..	May	9,988,181	3,772.26	3,211,708	18,565
July 1 to May 31 ..		19,675,427	3,117.72	4,914,072	31,876
Cal. Pac. ..	June	9,072,457	77.41		
July 1 to June 30 ..		101,656,426	8,831.40	27,777,431	108,221
Canadian Northern ..	June	2,718,249	43,770.79	343,400	337,800
July 1 to June 30 ..		10,034,550	3,133.00	6,040,000	3,992,550
Chicago & East ..	June	11,754,000	3,500.00	3,428,000	21,000
July 1 to June 31 ..		136,076,001	16,077.00	46,240,000	2,215,000
Chicago & North ..	May	2,444,457	44,662.25	808,426	31,666
June 1 to May 31 ..		32,941,781		9,983,967	40,747
Chicago Great West ..	May	1,000,000	10,000.00	3,717,765	17,765
July 1 to May 31 ..		12,775,776	6,027.62	3,105,460	1,840,000
Denver & Rio Grande ..	May	1,011,711	27.94	1,828.00	3.08
July 1 to May 30 ..		22,775,757	1,227,555	9,117,610	1,125,665
Grand Trunk & Canada ..	May				
Jan. 1 to May 31 ..		274,170	23,000.00	236,400	\$39,400
Jan. 1 to May 31 ..		3,610,000	48,140.00	822,750	126,750
Canada Atlantic ..	May	44,750	2,250.00	Dr. 1,100	-1,450
Jan. 1 to May 31 ..		14,750	2,000.00	Dr. 1,100	-5,650
Chicago & West ..	May	1,000,000	10,000.00		16,000
Jan. 1 to May 31 ..		677,240	67,000.00	1,075	21,500
Detroit Gr. Hv. & Mil. ..	May	1,000	11,000.00	10,000	-11,000
Jan. 1 to May 31 ..		Dr. 3,000	Dr. 3,000		-16,700
Total for System ..	May	1,000,000	12,410.00	10,000	10,000
Jan. 1 to May 31 ..		4,750,000	33,430.00	821,500	77,750
Cousville & Nashville ..	May	\$3,071,387	51,147.22	\$871,702	\$228,407
July 1 to May 31 ..		8,471,656	2,011.82	13,974,126	6,675,750
Indiana P. & S. S. M. ..	May	1,000,000	10,000.00	1,000,000	1,000,000
July 1 to May 31 ..		14,850,000	2,217.75	7,007,441	4,198,680
Int. & N. W. ..	May	3,400,000	34,000.00	3,072	\$7,315
July 1 to May 30 ..		2,000,000	20,000.00	2,141,144	2,271,150
June 1 to May 31 ..		9,450,000	107,000.00	1,000,000	1,000,000
July 1 to June 30 ..		9,450,000	107,000.00	2,141,346	1,866,300
Los Angeles & West ..	May	700,000	7,000.00	22,432	236,100
July 1 to May 31 ..		8,600,000	87,425	2,141,950	\$89,843
May 1 to May 31 ..		1,434,141	14,341.41	1,671,714	\$7,475
July 1 to May 31 ..		1,434,141	14,341.41	15,350,000	12,276,400
Los Angeles & West ..	May	1,000,000	10,000.00	30,337	42,718
July 1 to May 31 ..		3,311,100	33,111.00	4,956,568	3,007,895
Total both Comps. ..	May	1,000,000	10,000.00	1,700,000	1,179,765
July 1 to May 31 ..		14,850,000	2,217.75	1,000,000	7,750,000
Atch. Top. & Santa Fe ..	May	1,000,000	10,000.00	85,000	18,665
July 1 to May 31 ..		1,000,000	10,000.00	1,000,000	1,000,000
Cal. Pac. ..	May	1,000,000	10,000.00	1,000,000	1,000,000
July 1 to May 31 ..		1,000,000	10,000.00	1,000,000	1,000,000
Canadian Northern ..	May	1,000,000	10,000.00	1,000,000	1,000,000
July 1 to May 31 ..		1,000,000	10,000.00	1,000,000	1,000,000
Chicago & East ..	May	1,000,000	10,000.00	1,000,000	1,000,000
July 1 to May 31 ..		1,000,000	10,000.00	1,000,000	1,000,000
Chicago & North ..	May	1,000,000	10,000.00	1,000,000	1,000,000
July 1 to May 31 ..					



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East Indian  
Egyptian State Railways  
Gold Coast Government  
Grand Trunk Railway of Canada  
Grand Trunk Pacific  
Great Indian Peninsula  
Great Western of Brazil  
Interoceanic Railway of Mexico  
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By H. B. R. WOOD, Jr., of the Pennsylvania Railroad Company and Morgan, Lewis & Bockius, Inc., New York City

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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, AUGUST 16, 1913.

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## PRINCIPAL CONTENTS.

## THE RAILWAY TIMES.

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All communications for the following issue should be received not later than 6 p.m. on Friday.

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## CANADIAN RAILWAY RESULTS.

In the course of the annual meeting of the shareholders of the Canadian Pacific Railway Company, held on August 12, 1913, at the Hotel Vancouver, the results of the company's operations for the year ended June 30, 1913, were presented. The results for the year, and in the case of the Canadian Pacific for the year, it is not unusual with the Grand Trunk Company, in the first half of its year in particular, to find that the summary of its results for the complete six months is less satisfactory than the preceding monthly statements. In the case of the Canadian Pacific, however, the results for the first half of the year are buoyed up by the usual monthly statements are thus crushed when the more definite figures for the half-year are presented by the directors; but we cannot help feeling that this is inconsistent, as it ought to have been pretty well understood by this time that the Grand Trunk, however prosperous, does not intend to distribute the whole of its profits, and further that it seems to be an established principle of the board of directors to pay nothing on the third preference stock for the "lean" half of the year, but reserve the payment of the dividend on that stock till after the close of the December period. Over and over again the course of net profits has suggested that some distribution might have been made for the June half-year upon the third preference, but with absolute regularity such payments are not forthcoming, the whole of any dividend paid being reserved till after the close of the year. The preliminary statement of the results for the half-year shows that gross receipts rose by £531,000, and working expenses by over £413,000, so that the addition to net profits was only about £117,500. It must be some consolation to shareholders in British railways to observe that they are by no means alone at the present time in encountering large increase in expenditure. The Grand Trunk has also had to meet an increase in the special debits in respect of rentals of £43,500, reducing its additional net revenue for the past six months to only £74,000. The Canada, Atlantic, and Detroit sections of the system have shown considerable increases in their deficiencies, so that finally a paltry surplus of £9,000 is all that remains for the Grand Trunk proprietors out of a gross increase on the main line of £531,000. Under these conditions the full dividend on the second preference is to be paid, the same as a year ago, and the balance carried forward is augmented by £7,600. In reviewing this result, however, we would point out what has already been hinted at—that it is conservative, and it is quite probable that working expenses will cover more than the actual outlays of the company for the six months, provision having been made for a further increase for the future. We are by no means prepared to agree with the suggestion that the net profit for the year will be as high as £1,000,000, but we think that the adjustments made in the consolidated statement of the Canadian Pacific are no less prudent than those of the Grand Trunk. The Canadian Pacific is no less prudent than the Grand Trunk, and the railway have increased in the year by more than £1,000,000.

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dollars. The net earnings of the railway from all sources advanced by rather over 3 million dollars, and, as usual, appropriation out of profits is made to provide a dividend of 7 per cent., out of the railway revenues of the company. The remaining 3 per cent. is provided from special income, representing interest on proceeds of land sales, etc., making up the dividend to 10 per cent. in all, the same as for the preceding year. It is calculated that the company's net income represents rather over 16 per cent. on the capital, so that the dividend of 10 per cent. is by no means lacking in the usual conservatism. In order to maintain this position, however, it will have been noted that the company has had to earn in the past half-year, not merely a record gross revenue but an increase over 1911-12 of over 10 million dollars at a rate of increase of no less than 13 per cent.

### RESULTS OF THE SESSION.

The session of Parliament which terminated yesterday resulted in (among other things) all the railway Bills promoted by various companies being disposed of in one way or another. Taking them over all, they do not represent any great activity in the extension of British railways. Most of the schemes were for small extensions, acquisition of land and minor miscellaneous matters. Perhaps an exception to this view may be made in the case of some of the proposals made by the companies working electric railways in or near London. Several schemes for making junction lines between one railway and another have been authorised, and though these lines are short, their construction will be of great importance to vast numbers of people. From the financial point of view also these junction lines are important, because in proportion to their length they are very expensive. Among the Bills which have been passed are measures promoted by several of the leading railway companies of the country, including the Great Eastern, the Great Northern, the Great Western, the London and South Western, and the North Eastern. All these were general powers Bills, and they have all been sanctioned. As is often the case, the most interesting proposals of the year have been un-

der the last, for example, the Cardiff Railway Bill which had a strenuous and prolonged career before Committees of both Houses of Parliament, was a few days ago when almost at its last stage rejected by a vote of the House of Commons. The proposal was to enable the railway company to alter their charge for coal shipped at the Cardiff docks, and in view of the important position of the company, which is not so favourable as that of some of the others, and also because of the fact that the rate of coal shipped at Cardiff have not been reduced for about half a century, it seems likely that this scheme will be revived. In the case of the Fishguard and Rossare Railway, the second one of three unimpaired bills of the House of Commons in rejecting the Bill on grounds which had nothing to do with the things which the Bill proposed. The measure was intended to give the company additional powers for the construction of harbour works at Fishguard, and it was rejected by the House for economic reasons. On April 10 last, it was rejected by a combination of Nationalists, Labour members and Radicals. The Nationalists had complaints about traffic arrangements in Ireland, and the Labour members thought the wages paid on the Rossare line were too low. There appears to be no reason why the company should not again bring forward their proposals for improving the harbour at Fishguard. One of the most interesting fights of the session was that between the London and North Western, who promote the Lathom Railways Bill, and the North British Railway Company, who brought forward their competing scheme for a new line between Lathom and the North British line, which would be a coal route, and would be of great importance to the district.

owners' Bill was rejected and the North British Bill was passed, subject to the interesting condition that the railway company are to allow the coalowners to place on the railways as many of their own wagons as they like for the conveyance of coal from the mines to Leith and Granton. This arrangement has caused something of a sensation in the north, as the fixed policy of the Scotch railway companies for some years has been to limit the number of traders' wagons on their railways. Another scheme of some importance which was thrown out was that called the Northern Junction Railway, which proposed the construction by a new company of a line round the west and north-west suburbs of London, connecting together various trunk lines running out of the Metropolis. In spite of the support of the War Office the Bill was thrown out, chiefly on account of the opposition of the parties interested in the development of the Hampstead garden suburb. Another important scheme which was rejected was the part of the Metropolitan Railway Bill which sought to construct junction lines between the Great Northern and City Railway (which has been acquired by the Metropolitan Company) and the Metropolitan Railway at Bishopsgate on the one hand, and the Waterloo and City Railway at the Bank of England on the other. The proceedings of the year on railway Bills, though not very exciting, have been fairly interesting, and with the promise of a long session next year it is quite likely that many new Bills will come up for the consideration of Parliament.

### REINFORCED CONCRETE FOR RAILWAY WORK.

Reinforced concrete has not been generally adopted in railway work in this country. It is, however, gradually and irresistibly winning its way against the strong views that exist amongst some old-fashioned men, who are not yet satisfied with its reliability in all cases. There are many firms of consulting engineers who are closely allied with the different systems of concrete reinforcement and who may be relied upon to carry out any design of their own in their own way and with their own well-trained staff of men, foremen, clerks of works and assistant engineers. They are willing to submit their designs for the approval of engineers and to allow them to appoint an inspector over the work. This method suits architects and Government Departments down to the ground; but railway engineers fight shy of what they consider divided responsibility, while quite aware of the fact that they themselves do not possess that perfect organisation which is one of the essentials of successful ferro-concrete work. This letting of "I dare not wait upon and would" does not affect the younger and more enterprising men, nor do engineers on the Continent and in America show any hesitation in carrying out the most novel and daring designs in the material, either themselves or by means of contractors. The Judith Viaduct, described in this issue, is a good example of American railway practice. These examples might be multiplied indefinitely—for steel reinforcement has been applied to works of art of every description on railways all over the world, and with very few reported failures though it is not certain that all bad work has come to light as yet, or even that all serious breakdowns have been reported unless they have had fatal results. One promising branch of the subject is to have standard "market" sections prepared for sale in the same way that joists and squared timber sections are stocked. This is already done in the case of those thin slabs of which the walls of nearly all the temporary buildings at exhibitions have been built up of late years. It has even been suggested to form railway sleepers of reinforced concrete, but it is more than doubtful whether they could ever be made equal to resisting the rough usage to which they are unavoidably subject. For piles, for protecting groynes on the sea-shore, for retaining and wharf walls, the material



is particularly adapted, and for bridges and buildings of all kinds it has been successfully used for many years past. There is no doubt that it is cheaper than any other material in most places, and if correctly carried out it is quite as reliable—there is great virtue however in that "if."

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways for the week ended August 10 shows a total of £2,722,996, which was earned on 21,948 miles, being at the rate of £124 1s. 3d. per mile of line open. For the corresponding week of 1912 the receipts of the same lines amounted to £2,611,690, with 21,890 miles open, or £119 6s. 2d. per mile. Thus there was an increase of £111,306 in the receipts, an increase of 58 in the mileage, and an increase of £4 15s. 1d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £133,404 (or £5 19s. 11d. per mile) in the passenger receipts and a decrease of £21,135 (or £1 2s. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the thirty-two weeks in the passenger receipts has been £2,183,475, while the aggregate increase in the goods traffic was £4,108,406. The aggregate receipts of the fifty railways for thirty-two weeks (December 29 to August 10) amounted to £73,165,153, in comparison with £66,674,581 last year, an increase of £6,490,572, not including receipts from certain canals, etc.

### Holiday Traffics.

The August Bank Holiday period has been in every way satisfactory to the railways. Weather conditions were better than the average, and the improvement in the passenger receipts indicates that the public took full advantage of the last summer holiday of the year. The increase in excursion fares had no effect in restraining travel; and indeed these increases are so small that they are individually of no importance, although in the aggregate they will help to offset the ever rising tide of railway expenses. Taking the fortnight covering the Bank Holiday traffic and comparing the estimated passenger receipts as published by the companies, the increase of the more important companies this year is notable. It ranges from £4,400 in the case of the Great Central to £36,600 on the North Eastern, while the Great Western has £25,000, the North Western £17,000 and the Midland £15,000 (the receipts of the Tilbury section being included in each year). Goods earnings were not so good, on the whole, as a year ago; and the net results of all traffic for the two weeks show that the North Eastern has a decrease of £11,000, and the London and North Western a decrease of £18,000. The Great Central, however, has a combined gain of £11,000, while the Great Western tops the list of increases with a gain of £20,000. Taken as a whole the results shown are excellent, and when allowance is made for a certain amount of confusion in the estimated receipts due to changes in methods incident to the operation of the new Railways Accounts Act, it will be found that shareholders have very good grounds to be satisfied with the returns.

### The New South Wales Government

the South Wales Government. The New South Wales Government has decided to build a railway from Sydney to the coast at the mouth of the Macleay River.

### Grand Trunk Extension to Providence.

It is reported from Montreal that the Grand Trunk Railway is planning to extend its line from Montreal to Providence, Connecticut. Various rumours have been current for some time that certain financial institutions in the city of Providence are desirous of having the railway enter the city, as he believes that the thing definite will soon be made public.

## MONEY AND STOCK MARKETS.

Continuation of	1913	1912
Mines .....	.....	.....
General .....	.....	.....
Amalgamated .....	.....	.....
General .....	.....	.....
Amalgamated .....	.....	.....
General .....	.....	.....

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last Week.	Last Year.
Bank's Com and Bullion	.....	.....	.....
Total Reserve .....	.....	.....	.....
Proportion of Reserve	.....	.....	.....
to Liabilities .....	.....	.....	.....
Notes in Circulation .....	58.07 p.c.	55.00 p.c.	49.82 p.c.
Bank Rate .....	4 1/2 p.c.	4 1/2 p.c.	.....
Open Market Discount .....	3 1/2 p.c.	.....	.....
Bankers' Clearing House	.....	.....	.....
Silver bars, per oz. (spot)	.....	.....	29d.
Consols account .....	.....	73 1/2	.....
French 3 per cent. (acc.)	87f. 50c.	86f. 50c.	.....
Paris Cheque exchange .....	25f. 25c.	.....	.....
New York 60 days ditto .....	.....	.....	\$4.84 1/2
Rio de Janeiro exchange	.....	.....	.....
Valparaiso 90-day exch'g	.....	.....	.....
Calcutta transfers .....	1s. 3 1/2d.	.....	.....
Hong Kong transfers .....	1s. 11 1/2d.	.....	.....
Shanghai transfers .....	.....	.....	.....

	Jan. 16, 1908	Jan. 23, 1908	Mar. 5, 1908	May 28, 1908	Jan. 14, 1909	Apr. 14, 1909	Oct. 14, 1909	Jan. 16, 1910	Jan. 23, 1910	Mar. 5, 1910	May 28, 1910	Jan. 14, 1911	Apr. 14, 1911	Oct. 14, 1911	Jan. 16, 1912	Apr. 14, 1912	Oct. 14, 1912	Jan. 16, 1913
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The return of the Bank of England this week shows great accession of strength. The amount of gold received from abroad on balance came to £1,877,000 in all, the greater part of which was received from South America. The whole sum in sovereigns dispatched from that source was very much larger, nearly three-fourths being diverted to other centres of finance, and Paris is said to have secured a great deal more than London. The drain on Brazil has been especially onerous, and an issue of Brazilian Treasury bills for one year was made by Messrs. Rothschild at 6 1/2 per cent. in order to relieve the monetary strain in that country. This move had naturally a hardening influence on rates of discount here, so that the above-mentioned receipts of gold from abroad, supplemented as they were by a reduction of £170,000 in the demand for coin within the country and a contraction of the active note circulation by £381,000, did not benefit the Money Market to the extent that might have been expected. The Reserve is indeed £2,437,000 higher at close upon £7,000,000, which is none too large, seeing the amount was £2,815,000 at the corresponding date of last year, when the Bank's return was £2,815,000.

Over, is seen in the ratio of Reserve to Liabilities, which is over two points up at a figure which is no less than 88 per cent.

There is an increase of a quarter of a million only in the amount of gold in the Bank's vaults, but this is a small increase.

There is an increase of a quarter of a million only in the amount of gold in the Bank's vaults, but this is a small increase.



# THE QUANTITY OF MONEY AND THE VOLUME OF TRADE AS REFLECTED IN RAILWAY TRAFFIC RECEIPTS.

By R. W. WILSON.

THE instrument by which the two are brought into relation is to be found in the rate of interest. Investors and all persons concerned in the management and development of railway enterprise are necessarily concerned, also, in all these changes, and the financial columns of this journal, and, indeed, the financial columns of every newspaper, are mainly occupied with recording such changes, and with quoting the figures which reflect them, and drawing inferences therefrom. Particularly has this been the case during the last few years. At ordinary times the performances and potentialities of a given railway company are bound up with local conditions and with the merits or demerits peculiar to it, but in the extraordinary times through which we have been passing and continue to pass, every investor must have observed that the merits of individual companies have been over-ridden and obscured by general considerations of finance. This, at all events, has been the case as far as concerns prices quoted on the stock markets. It therefore seems desirable to give more than usual attention to the principles which underlie the sequence of changes already referred to, in order that our readers may better apply the facts and figures relating to them which appear from time to time in the Press, to the advantage of their private affairs.

The rates of interest above-mentioned are not so much those paid for the loan of capital, which are comparatively stable, or those demanded and obtained for the use of money at call or short periods, which vary from day to day; the adjustment of the quantity of money to the volume of trade can best be traced by rates charged for discounts and advances extending over a sufficient period to bridge accidental changes in the condition of the money market. An attempt will be made to show clearly how these are affected by the quantity of money in use and how by the volume of trade. Into the nature of money, as the term must here be employed, it is not necessary immediately to inquire. It was introduced originally to facilitate barter, and is now one of the elements in every transaction of industry or commerce. The expression "volume of trade" is frequently made to signify the output of trade during a month or a year, for which purpose the expression "volume of trade per unit of time" would be more precise. In any case some term is required for the quantity of things in process of being exchanged at a given moment, and for this "volume of exchanges" would appear to be better suited than "volume of trade," because it is less likely to be mistaken for a contraction of the volume per annum. The distinction aimed at may be illustrated by transactions in commodities. Some things change hands more quickly than others. Milk is produced and consumed in twenty-four hours. Eggs are, perhaps, a month about it. If, over a self-contained area the "volume of exchanges" in milk and eggs were made up of 1,000 gallons of milk and 10,000 eggs, "the volume of trade per annum" might be 365,000 gallons of milk and 120,000 eggs. On the analogy of a stream of water, the first would correspond to the area of cross-section and the second to the discharge in cubic feet per second. With the latter, neither the amount of money involved nor the rates paid for its use have any immediate concern. Thus, the output of eggs is the same whether they pass direct from producer to consumer or through the hands of several owners on the way, while the quantity of money needed to effect the transition smoothly depends on the number of times possession is transferred. Another expression is therefore required to signify the quantity of things exchanged when each thing is counted as often as it changes ownership in a month or year—i.e., the "volume of exchanges in a unit of time," but lest this expression should become confused with the "volume of exchanges" as already defined, it will perhaps be better to use the term "flow of exchange"; the word "flow" implying reference to some definite interval during which all changes of possession are taken into account. The need of such a term is particularly evident in dealing with land, and stocks, and shares, the traffic in which profoundly affects both the quantity of money put into circulation and the rates demanded and obtained for the use of it.

The "average volume of exchanges" will be the average quantities in process of being exchanged at a number of repre-

the average rate at which transactions in that article follow one another, and its *current* price for any particular market must be the amount of money engaged in its exchange divided by the

the money actually being paid at that time and in that market for such a number of them as is given in the term "volume of exchanges," the *average* price may be obtained by taking the average amounts of money engaged in its exchange at the former by the latter. The relations between the "volume of exchanges" or the "average volume of exchanges" with the "flow of exchange" or with the amount of money engaged as set out, follow upon the meanings ascribed to the terms employed, and must therefore hold for everything in which trade can be done. Applied to general trade the "flow of exchange" divided by the "average volume of exchanges," gives the rate at which capital is turned over in business, and affords a gauge to general variations in the rate of profits, while the quantity of money engaged divided by the "average volume of exchanges" gives the general level of prices. As will appear later on, there are no figures available in the United Kingdom that offer so valuable a clue to the current flow of exchange as those afforded by the gross receipts of our railways for the carriage of goods. The following symbols may be conveniently adopted:—

$V$  = the volume of exchanges.  
 $P$  = the average price.  
 $M$  = the average amount of money engaged in exchange.  
 $V/P$  = the average rate of exchange.

The relations between them may, then, be shortly rendered thus:—

$V/P$  gives the general level of price for the things dealt with presented as an index number.

A third relation immediately suggests itself—viz.,  $M/V$ , the quantity of money required to sustain a fixed "flow of exchange." There are reasons for thinking that  $M/V$  varies but little when conditions of trade are normal. If written  $M/V = P \times V/P$ , it is seen to be equivalent to "index number of prices" multiplied by the "average duration of transactions" and as a matter of common observation, prices tend to rise when business is brisk; that is to say, when exchanges quickly follow upon one another, while if exchanges lag, prices always tend downwards at the same time. This perhaps is not sufficient to raise a presumption in favour of  $M/V$  being invariable, the proposition, however, may be better established upon a consideration of the nature and origin of money. Much that is now called money is merely confidence—confidence of a particular kind, capable of being stated in terms of exchangeable things. It is, moreover, to be observed that this confidence must have preceded buying and selling of any sort, because without some measure of this kind of confidence exchange cannot proceed at all. All this may seem very abstract and remote from practical problems of everyday business, but the phenomena of finance are only intricate and difficult to understand because familiar. It is so much to much that is implied and contained in simple terms. It is therefore necessary to explain at some length, as it were, as it figures in general finance, grows out of the fact that the flow

it may be, is not commerce. It excludes the fact that either side must be content that the terms which are to comply with made bargains. Now every exchange is



be compared and measured. Wool must be examined and weighed before it can be physically transported. It will continually happen that some of these operations are more forward on one side than on the other, so that debts in corn or wool arise and cause delay. Physical conditions thus insure that the speed with which exchanges are accomplished will depend on the amount which such debts can be safely permitted to reach. If merchants can be trusted to the extent of 1,000 sacks or bags, transactions will follow one another very much faster than if 100 were the limit to prudent trading. The speed, of course, may also be advanced by improved organisation and transport, but assuming these conditions unaltered, the "flow of exchange" and the limit of total indebtedness are associated physically. They are still more closely associated psychologically, both being manifestations of commercial confidence. The total indebtedness at any moment in corn or wool measures the amount of confidence already displayed by individuals in each other, and the "flow of exchange" sustains the limit of indebtedness the market as a whole is prepared to tolerate. In the light of the illustration commercial confidence may be seen to be of the most definite concrete sort, resolving itself into answers to such questions as: How much wool can A—be trusted to deliver by Tuesday next? How many days will B—require to deliver 1,500 sacks of corn? When goods of any kind are in question, the element of time is never absent, as railway managers are in position to know. The main sequence of cause and effect takes place in a ring. The commercial confidence of individuals leads to a larger total of simultaneous indebtedness. This, for physical reasons, permits a greater "flow of exchange" and that, in turn, promotes a general feeling of confidence within the trading community which shows itself in an increased disposition to tolerate the growth of debts.

This connection between the "flow of exchange" and the "toleration of debt" is in no way affected if traders, on either side, instead of putting their whole confidence in each other, rest it partly upon an intermediate person. Thus a woollseller, behindhand in his deliveries, might arrange with an intermediate person for the satisfaction of his creditor by paying a commission in wool for the service. The intermediate person may be assumed to make it his business to inspire confidence and to keep a store of corn and wool for that purpose. The organisation of the market being thus altered, the quantities exchanged under the new conditions cannot be compared with those that obtained under the old, but nothing has occurred to affect the mutual dependence of the "flow of exchange" and the quantity of confidence displayed. The limit of indebtedness is not altered in the production of confidence, but it is now indirectly shown, upon its establishment, to be affected by it. Hence the only change, a like change might be caused by the establishment of commercial courts of acknowledged efficacy.

Now suppose a third thing being simultaneously exchanged, and let it be something the ownership in which can be transferred easily and quickly compared with that in corn and wool. Whenever debts become unduly swollen through accidents of field or flood or other physical causes, it must often be to the advantage of both debtor and creditor to settle in this third thing, and the convenience thus manifested would naturally tend to increase its use for such purposes, because a comparatively small amount passing readily from hand to hand would be more effective than a much larger amount from inevitable friction in the delivery of corn or wool. As an illustration, suppose the third thing to be gold, and the debt to be for the purchase of a house. The debt is not paid, but the house is bought, and the debt is thereby cancelled. The history of trade, and also contemporary trade in civilised countries, supplies many examples of this third thing, with the effect of making whatever confidence

relative degree. In the form of coin, ownership in these metals can be transferred so much more quickly and accurately than that in any other commodity that the time required to effect it is of comparatively negligible importance. Hence coin can be compared with no other goods. Its function in exchange is rather that of the commercial confidence which it displaces, and by which it may be in turn displaced. Suppose, in the illustration before us, the woollseller puts a disk in the cornseller's hat whenever he receives a sack of corn and takes one out or accepts one from the cornseller whenever he delivers a bag of wool. So long as the disks are counters and no more, they merely record the amount of commercial confidence, alternately brought into play and rescinded, as debts rise and fall, but directly they become coin they do away with the exercise of confidence. Where commercial confidence is reposed on an intermediate person or *persona*, and supported by documentary evidence, as is then usually requisite, the case is not different. For example, the disks might have borne the seal of an intermediary, vouching his undertaking to redeem them for coined gold. Directly the disks are displaced by the coins themselves, the confidence reposed in him is eliminated. The coin and the confidence fulfil the same function and the word "money," originally applied only to the first, has been extended to many forms of the second. There are consequently two very different kinds of money in use. Material money which is a commodity specialised, and immaterial money which is commercial confidence of such a kind as can be measured in terms of the first.

Now, in establishing the connection between the "flow of exchange" and quantity of commercial confidence inspired and displayed, the latter, like the former, was presented in terms of corn and wool, but with the advent of material money commercial confidence is measured in terms of that. The confidence a cornseller deems it expedient to repose in any particular woollseller, that the latter is able and willing to deliver definite quantities of wool in defined limits of time, becomes transmuted or transmutable into confidence that he has at command a definite sum of money, and *vice versa*, but the justification of such confidence, as exhibited by sellers generally, remains, as before, in the rate at which the buyers, becoming sellers in their turn, are able and willing to supply goods. Each recipient of goods in a trading community must cause whatever confidence is reposed in him, and collectively the recipients of good can only do this by being, at the same time, deliverers of goods and deliverers at a certain speed. Hence the immaterial money employed in a market, and the rate at which deliveries are made in the transactions conducted by its means, are both measures of the same quantity of commercial confidence. Everyone is always a consumer, and none but may be regarded as sometimes a producer and often a trader as well. The changes in the "flow of exchange" he experiences as producer or consumer; as a trader he translates into money and expresses by the quantity of commercial confidence he displays in his dealing. Each one is influenced by the facility of living, the cost of food and clothing, and the readiness with which he finds himself able to alter his holdings in hand, buildings, plant, tools, stock, shares and fixed capital generally—an influence which is at once seen in his toleration of debt. Impose upon him such a change in the cause of comfort and feeling of security as an alteration in the "flow of exchange" creates, and he at once answers with the amount of money he likes to owe or have owing to him, and acts accordingly. Modifications in the prices he is ready to offer and those he is willing to accept necessarily ensue with their consequent effects upon the "volume of exchanges," which, reacting on the "flow of exchange," for physical reasons, as before explained, completes the ring in which the main sequence of cause and effect takes place in the form it assumes when money is an element common to all transactions.

Diagrammatically



Normal movements take their rise in  $V$ , a fluctuating quantity sensitive to all natural causes, and changes in  $M$  follow directly upon those of  $F$ . Abnormal movements, such as panic and speculative denouement begin with  $M$ , and  $F$  is less directly touched. A tendency of prices to vary with the briskness or sluggishness of trade is thus explained. The expression  $\frac{M}{V} = \frac{F}{V}$  is unaffected by changes of  $V$  and those of  $F$  are immediately reported by those of  $M$ .

It will be remembered that F, the "flow of exchange" as defined, comprises also deliveries made against money of the material kind, and to the extent to which this is employed the commercial balance of trade is affected. It is, however, a factor that influences tending to multiply the production and exchange of goods in general are apt also to promote the production and exchange of the particular commodity specialised as money, the two are unrelated. However, the amount of the specialised commodity in existence is large, and the quantity of material for material money accessible to traders, is therefore not subject to rapid changes. So the ever-varying requirements of fluctuating trade are, under normal conditions, sufficiently satisfied by changes in the quantity of immaterial money implied by the commercial confidence simultaneously brought into play or rescinded. Corroboration of this is afforded by statistics. The "flow of exchange" in the circulating capital dealt with by means of immaterial money is, to some extent, gauged from year to year by the gross receipts of our railways from the carriage of goods, because until last July railway rates in the United Kingdom have been subject to very few alterations. The amount of money, too, is indicated by the total bank deposits held in the country which have been estimated in the *Economist* since 1878. Both sets of figures, together with the ratio between them, are given in the following table. It will be observed that a period of activity in domestic business on the Stock Exchange is preceded by a fall in the ratio.

Date.	Ratio of Receipts from Goods Traffic to the Total Receipts of the United Kingdom Bank of Ratio.	Ratio of Receipts from Goods Traffic to the Total Receipts of the United Kingdom Bank of Ratio.
1879	33.47	475
1880	35.79	475
1881	34	495
1882	37.74	
1883	38.70	
1884		545
1885	39.87	545
1886	39.37	545
1887	37.34	555
1888		
1889	41.68	595
1890	42.22	
1891	41.68	14½
1892	42.68	
1893	40.00	6.45
1894	43.37	6.60
1895	44	
1896	49.17	
1897	47.87	7.35
1898	50.21	7.55
1899	52	795
1900	53.47	785
1901	52.09	795
1902	54.60	795
1903	54	795
1904	55.40	775
1905	56.41	805
1906	56.41	805
1907	61.20	805
1908	58.89	
1909	59.48	14½
1910	60.00	
1911	60.00	14½
1912	64.02	14½

The ratio, as may be seen, never moves as much as a whole point in any one year to another. The flow of exchange in stocks and shares and fixed capital generally is not represented in the figures of the table, showing that these are conducted with the comparatively small surplus of money available for such purposes after the requirements for trade in more necessary things have been satisfied. For this reason no good prognosis of business in stocks and shares, whether newly created or long established, can be made without taking into account the flow of trade in necessities and the amount of money with which it is conducted; and this is why the attention of dealers in stocks and shares must always be occupied with variations in the rates of discount and interest by means of which, as has already been stated, the quantity of money and the volume of trade are being continually adjusted

the one to the other. In a subsequent article it is proposed to deal with the mechanism of this adjustment and to show how closely the price of Stock Exchange securities is associated with the prices of staple commodities through changes in the bank rate.

### INCREASED RAILWAY WORKING EXPENSES.

In a Parliamentary paper which was issued on Tuesday night on the subject of the American mail service and the calling of some of the Cunard liners at Queenstown, a letter appears, of date April 11 last, from the Post Office to the Cunard Steamship Company, which is of interest in connection with the subject of the increased working expenses on British railways. In the course of this letter the following occurs:

"I am directed to inform you that the Postmaster-General has been unable to arrange with the London and North Western Railway Company for the provision of the service in return for the former payment of £5,510 per annum. The company has offered to undertake the service for a payment of £7,938 per annum. In addition, the incidental expenses, cost of staff, station services, etc., amount under present conditions to £792, making the total cost of the service £7,830 per annum.

The claim for higher payment now made by the railway company was not unexpected by this Office, nor probably by your company.

The explanation of the increase of £1,528 appears to be as follows:—

4s. 6d. a mile for special trains; and they find it necessary also to run a train conveying the mails as a special train from Crewe instead of from Chester to Holyhead. This

Steam Packet Company asked £200 per trip for a similar service. This item accounts for £1,040.

(3) The quantity of mails despatched by the Holyhead route is now so much greater than more time is necessary for the

and North Wall; and in order to maintain the same time of arrival in Queenstown (7.15 a.m.) the train from North Wall must be accelerated, as it was during the period 20 October 1910, 30 November, 1912. The cost of this acceleration to the London and North Western Railway Company is £100 per annum.

On full consideration of the matter the Postmaster-General is of opinion that the claim of the London and North Western Railway Company is reasonable."

### NOVEL PROPOSAL BY PLATELAYERS.

by a meeting of platelayers in the employment of the London and North Western Railway in the Liverpool district. For some time they have been agitating for increased wages but without success, and the drastic course which they propose to follow is set out in the resolution which is in the following terms:—"That this meeting of London and North Western Railway Company's platelayers in the Liverpool district resolve that, seeing that the company will not entertain any petition submitted under date March 26, requesting an increase in wages owing to the increased difficulty of keeping the rails in the physical efficiency necessary for the safe and prompt performance of our duty and the safety of the travelling public, and resolves that we do not hold ourselves responsible for any accidents occurring during the performance of our duty, and

all special duty which includes tagging, etc., and that at such time as the company will advance the wages we may obtain the bare necessities of life."

IRON RAILS.—Continued from page 110.

### REINFORCED CONCRETE IN RAILWAY VIADUCTS.

In the United States the use of reinforced concrete for bridge work has been carried further than probably in any other country, and the methods of construction are of much interest. Some important examples of ferro-concrete work are to be found on a new railway, the Lewistown and Great Falls line of the Chicago, Minneapolis and St. Paul Railway. This railway cuts across a watershed and the streams are numerous, involving the construction of a number of long

and the accompanying illustrations we are indebted to "The Railway Review" of Chicago. This bridge, which is 14 miles from Lewistown, is 1,954 ft. long, and the steel work for about two-thirds of this length is 135 ft. high above the masonry. The weight of structural steel is 2,829 tons. Fig. 2 shows the east abutment and the foundations for the entire structure, while in Fig. 3 are shown the forms for the same abutment.

For constructing the abutment a trestle was run out from the hillside, level with the top of it, and the mixed material was carried out in cars on this trestle and dumped into spouts. For the west abutment a long trestle would have been needed,

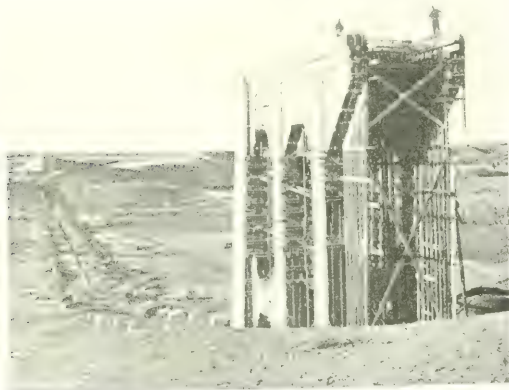


Fig. 2.—East Abutment and Foundations for the entire Bridge.



Fig. 3.—Wooden Forms about Abutment ready for concreting.

and high viaducts. These are all ballasted top-deck, plate girder and tower structures, with tower spans of 46½ ft. and intermediate spans of 60 ft. 9 ins. The ballasted track is carried on a floor consisting of reinforced concrete slabs, details of which are shown in Figs. 4 and 5. The slabs are 15 ft. wide, over all, including the curbs or parapets, which are 2½ ft. high on the inside of the track and 1½ ft. high on the outside. The slab length, measured longitudinally with the bridge, is 3 ft. 10 ins. The masonry for abutments, piers and pedestals

so it was found cheaper to build an elevator. The body of a dump car was used for the elevator bucket, which when it arrived at the top was dumped automatically into a spout which held one batch. From this spout the concrete was dropped by gate into a car in which it was pushed to any point desired and dumped into a spout for distribution about the forms. The manner of procedure was to allow the spout to fill up with concrete, and then work it out at the bottom as material was dumped in at the top. Sections of the spout

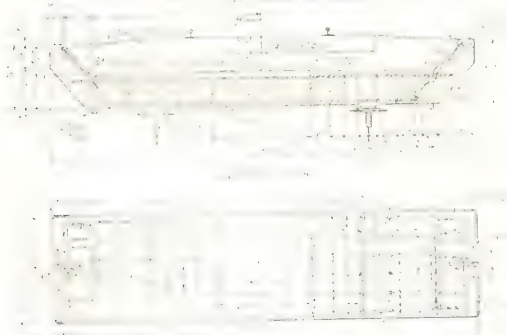


Fig. 4.—Concrete Bridge Deck Slabs.

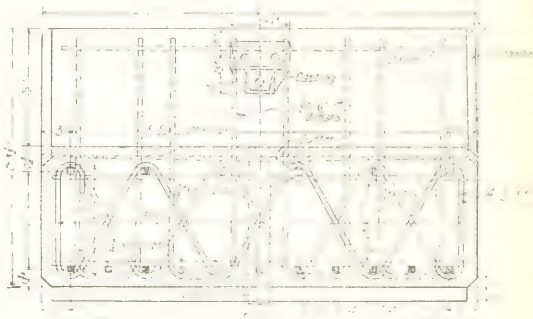


Fig. 5.—Concrete Bridge Deck Slabs.

and the foundations for the entire structure were carried out in cars on this trestle and dumped into spouts. For the west abutment a long trestle would have been needed, and the accompanying illustrations we are indebted to "The Railway Review" of Chicago. This bridge, which is 14 miles from Lewistown, is 1,954 ft. long, and the steel work for about two-thirds of this length is 135 ft. high above the masonry. The weight of structural steel is 2,829 tons. Fig. 2 shows the east abutment and the foundations for the entire structure, while in Fig. 3 are shown the forms for the same abutment.

The Judith River viaduct is taken as an example for the construction of the concrete bridge deck slabs. The slabs are 15 ft. wide, over all, including the curbs or parapets, which are 2½ ft. high on the inside of the track and 1½ ft. high on the outside. The slab length, measured longitudinally with the bridge, is 3 ft. 10 ins. The masonry for abutments, piers and pedestals

2½ ft. in length were taken off as the work progressed upward. On the east slope the concrete for the east pier was supplied to all the pedestals from two positions of the mixer. The mixed concrete for the piers across the valley was carried in cars running on a portable trestle, from which it was dumped directly into the forms for the near piers, and into other cars for the far piers. These secondary cars running on portable trestles consisting of timber and horses that were carried along.

The massive character of some of the abutment construction is seen in the illustrations. The height of the east abutment of the Judith River viaduct is 135 ft. above







# CANADIAN PACIFIC RAILWAY.

The directors of the Canadian Pacific Railway Company have declared a dividend on the common stock for the half-year ended June 30, and of 2½ per cent. on the common stock for the quarter ended June 30. The gross earnings of railway and steamship lines for the twelve months were 130,305,000 dols., an increase of 16,070,058 dols. compared with the previous year; working expenses 93,149,825 dols., increase 13,128,527 dols.; net earnings from railway and steamship lines, 46,245,874 dols., increase 2,047,631 dols.; and net earnings of steamships in excess of the amount included in the monthly reports, 1,245,563 dols.

Deduct fixed charges 10,870,352 dols., amount transferred to steamship replacement account 1,000,000 dols., and contribution to pension fund 125,000 dols., leaving net revenue from railway and steamship lines available for dividend of 35,499,085 dols. After payment of all dividends declared for the year the surplus from railway and steamship lines carried forward is 18,310,257 dols. Special income from interest on land sales and from other extraneous assets, not included in above, 6,598,151 dols.

The working results of the Canadian Pacific Railway Company for the past three years are shown in the following table:

	1911-12.	1912-13.	1913-14.
Gross earnings	124,226,942	140,296,999	130,305,000
Working expenses	80,098,118	93,149,825	93,149,825
Net earnings	44,128,824	47,147,174	46,245,874
Steamship net earnings	1,245,563	1,104,440	1,118,350
Total net earnings	45,374,387	48,251,614	47,364,224
Fixed charges	10,870,352	10,870,352	10,870,352
Steamship replacement	1,000,000	1,000,000	1,000,000
Pension fund	125,000	125,000	80,000
Available for dividend	35,499,085	32,752,754	29,727,109
Dividends on com.			
Carried forward	18,310,257	17,500,519	11,873,242

**Mumbles Railway and Pier.**—The half-yearly meeting was held on July 10, 1913, at 7.30 p.m. The Chairman, Mr. J. P. Houlton, reported that the line was in an excellent state of repair, and the traffic during the half-year had been very satisfactory. A dividend at the rate of 4 per cent. per annum on the preference shares, and at the rate of 7 per cent. on the ordinary shares,

**Mansfield Railway.**—At the half-yearly meeting, held in Nottingham on Monday last, Mr. J. P. Houlton said that a part of the railway had been opened for goods and mineral traffic, and 77,000 tons have been carried. Every effort was

made to ensure that traffic could pass both east and west. They hoped during the next six months to be able to deal with goods and mineral traffic to and from the town of Mansfield. Up

to £221,027. The board had not yet taken steps to issue the debenture stock authorised at the last meeting. They were advised that it was not desirable to make a public issue at present. They were, therefore, making arrangements with

the bank to issue the debentures, and a resolution authorising the directors to increase the interest payable on the debentures to

**Manila Railway.** Meetings of the holders of A and B debenture bonds of the Manila Railway Company, 1904, Ltd.,

Cater Scott presiding. The chairman, in moving a series of resolutions, said that the sanction of the A and B debenture holders was required to an issue by the company of £250,000

of bonds or stocks which could be issued without such sanction.

The resolutions proposed were:—That the A and B debenture bonds or stock authorised under the trust deed and supplemental trust deed in consequence of the

of marketing the bonds. They were against that, although in

## DIVIDEND ANNOUNCEMENTS.

declared.

been recommended.

at the rate of 4 per cent. per annum (4s. per share) on the ordinary shares for the half-year.

the rate of 6 per cent. (free of income tax) on the preference

quarterly dividend at the rate of 5 per cent. per annum on the preferred shares, payable on August 15.

have declared an interim dividend at the rate of 2 per cent. per annum on the ordinary shares for the past half-year.

**RAILWAY.**—The directors have declared an interim dividend at the rate of 1½ per cent. per annum on the ordinary stock for the past half-year.

## RAILWAY DIVIDENDS DUE.

Underground Electric Co. (pre. inc. bonds)

Great Southern and Western  
Midland Great Western  
North British

(Pre. Ord.)

## RAILWAY TRAVEL PUBLICATIONS.

of publications for the inducement of travel than the South Eastern and Chatham Railway acquires every year. Along

watering places than on any equal stretch of coast in the

district especially appeals to readers of Dickens. When it is

be created if the facilities were more widely known. The



## PARLIAMENTARY.

### PROGRESS OF RAILWAY BILLS.

#### Cardiff Railway.

The Cardiff Railway Bill, after a long and difficult career before committees of both Houses of Parliament, was rejected on the consideration stage by the House of Commons on Tuesday. The Bill, it will be remembered, was for the purpose of enabling the railway company to increase their charges for coal shipped at Cardiff Docks. Mr. Fred Hall (Dulwich—U.), moved the rejection of the Bill on the ground that it would place unfair burdens on shipping using the port. Other members opposed the measure, and in its support it was pointed out that conditions had changed very much since the existing rates, which were fixed as long ago as 1865. The rejection of the Bill was carried by 159 votes to 76.

#### Post Office (London) Railway.

The report stage of this Bill was taken in the House of Lords on Tuesday, when the Earl of Craven moved to reinstate the clause which had been struck out by the Select Committee, authorising the Post Office to supply the electrical energy for the working of the railway. Lord Newton, who was Chairman of the Select Committee on the Bill, said that when the Post Office put forward their case for being allowed to supply the electrical energy themselves it became evident that that case was an extremely weak one. No attempt had been made to ascertain whether the electrical energy could be supplied economically by the electrical power companies or the local authorities. The results appeared to be of such a doubtful character that the Committee could not bring themselves to sanction the proposal as to the power supply, and had struck out the clause. He had been informed that an undertaking would be given on behalf of the Government that if the Post Office found hereafter that electrical energy could be supplied cheaper and as efficiently by any of the private companies they would be prepared to abandon their own rights in the matter. So far as he was able to judge this seemed a fair and reasonable proposal and if something of the sort had been suggested during the deliberations of the Committee none of this trouble need have arisen. If it was the opinion of their Lordships that this proposal should be accepted he would not offer any objection. The Marquis of Crewe contended that if the Post Office could supply electrical energy as cheaply as the private companies and local authorities consistently with the requirements of the public service they ought not to be debarred

from doing so. Without the clause which their Lordships were asked to reinstate the Post Office would be entirely at the mercy of the electrical supply companies; but if they found hereafter that benefit would result by getting the energy from the electrical supply companies they would be prepared to take that course. With this undertaking he hoped that the House would agree to the re-insertion of the clause.

After some discussion it was agreed that the Marquis of Crewe should prepare a form of words to be introduced into the Bill in order to carry out the undertaking given, and the further consideration of the subject was adjourned.

On Wednesday their Lordships further discussed the proposal to reinstate the clause enabling the Post Office to generate electricity for working the railway. It was ultimately agreed that the clause should be reinstated subject to the condition that the Post Office should invite tenders for the supply of electricity for the purposes of the railway, and if satisfied that an appreciable saving would result and that it would be for the public convenience that power for the working and lighting of the tube should be obtained from an electricity supply company or from a local authority, that course should be adopted. The Bill as amended was read a third time and passed.

### QUESTIONS IN THE HOUSE OF COMMONS.

#### The Beira-Zambesi Railway.

Mr. GREY, (Camberland) (Conservative), on Tuesday asked the Secretary of State for Foreign Affairs if he could state what was the present position regarding the construction of the railway from the port of Beira to the Zambesi river to meet their extension from Port Herald, and thus give Nyassaland direct railway communication with the sea; if he had definite knowledge when the construction would commence; and if he proposed to take any active steps to forward the matter.

Sir E. GREY.—From the latest information which I have received, I understand that progress is being made with the preliminary negotiations, but I have no definite knowledge as to when it is expected to begin construction. I do not consider it necessary to take any step in the matter at present.

#### The Proposed Goods Clearing House.

Mr. FRED HALL (Dulwich—U.) asked the President of the Board of Trade, if the New Transport Company had submitted to the Board of Trade a scheme for overcoming certain of the difficulties in connection with the regulation of London traffic; if this scheme had been examined and reported upon by the

### PROGRESS OF RAILWAY BILLS.

The following tables show the progress of Railway Bills introduced in the session commencing January 1, 1913.

TABLE I.—BILLS INTRODUCED IN THE HOUSE OF LORDS.

Name of Bill.	PROGRESS IN THE HOUSE OF LORDS.			PROGRESS IN THE HOUSE OF COMMONS.		
	Introduced.	Read.	Committee.	Introduced.	Read.	Committee.
Cardiff Railway .....	March 11	Passed, June 26	March 11	March 11	Passed, June 26	March 11
London Railway .....	March 11	Unopposed, May 1	March 11	March 11	Unopposed, June 1	March 11
Great Eastern Railway .....	March 17	Passed, May 1	March 17	March 17	Passed, July 30	March 17
London Railway .....	March 17	Unopposed, May 1	March 17	March 17	Unopposed, June 1	March 17
Great Eastern Railway .....	March 17	Unopposed, May 1	March 17	March 17	Unopposed, June 1	March 17
London Railway .....	March 17	Unopposed, May 1	March 17	March 17	Unopposed, June 1	March 17
Great Eastern Railway .....	March 17	Unopposed, May 1	March 17	March 17	Unopposed, June 1	March 17
London Railway .....	March 17	Unopposed, May 1	March 17	March 17	Unopposed, June 1	March 17
Great Eastern Railway .....	March 17	Unopposed, May 1	March 17	March 17	Unopposed, June 1	March 17
London Railway .....	March 17	Unopposed, May 1	March 17	March 17	Unopposed, June 1	March 17
Great Eastern Railway .....	March 17	Unopposed, May 1	March 17	March 17	Unopposed, June 1	March 17

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whether the attention of the Select Committee on London Traffic had been called to the matter.

Mr. ROBERTSON (Parliamentary Secretary to the Board of Trade) said that the Board had been called to the notice of the New Transport Commission, particularly in connection with the goods clearing house, and I understand that the promoters claim that one result of their proposals would be to relieve congestion in the streets. Before effect could be given to the scheme, statutory powers of an extensive character would have to be obtained by the promoters, and until the scheme takes the shape of a Bill seeking such powers, it would be no part of the duty of the Traffic Branch to prepare a report on it. I am not aware whether the scheme has been brought to the notice of the Select Committee on London Traffic.

#### Uganda Railway and Lake Traffic.

Mr. GRANT (Cumberland, Egremont—U.), on Monday, asked the Secretary of State for the Colonies if he was aware of the inadequacy of the steamers on the Victoria Nyanza and the railway in British East Africa to deal with the existing traffic; that the order already on hand for new boats and rolling stock was insufficient; that the existing state of affairs was so unsatisfactory that the Germans were now contemplating constructing a railway of their own to the lake; and that, if this was done, it would divert into German hands an enormous amount of carrying trade which we could retain by a forward policy at the present time; and whether he proposed to take any action in the matter.



Greater Gt. Victoria Causeway—International and Great Northern Railway.

Mr. J. HARCOURT.—I understand that the recent congestion at the lake ports and on the railway has been relieved. One of the new cargo steamers for the lake is expected to be launched very shortly, and the material for a second steamer is already on the spot. The new lighter tug which is to be employed in the Kavirondo Gulf will also be launched shortly. With these new boats and a considerable amount of new rolling stock which is coming forward for delivery, I trust it will be possible to deal temporarily with the expansion of trade. I am now considering what further action it is desirable and practicable to take, and I hope next year to be able to commence a considerable further expenditure for this purpose.

#### New Station and Viaduct at Toronto.

The new station and viaduct at Toronto, Ontario, Canada, is a fine example of modern railway architecture. The station is a large, rectangular building with a flat roof and a series of windows. The viaduct is a long, straight structure with a series of arches. The entire structure is built of concrete and steel. The station is located on the north side of the city, and the viaduct runs along the waterfront. The new station and viaduct are the result of a major expansion program for the Toronto Railway Company. The program was initiated in 1908, and the new station and viaduct were completed in 1912. The new station and viaduct are a major improvement over the old station and viaduct, and they provide a more convenient and comfortable way for passengers to travel between the city and the waterfront.

## GENERAL NEWS.

### A REMARKABLE VIADUCT.



Causeway, may be gathered from the accompanying illustration.

The construction of the causeway was begun in September, 1909, and it has now been in complete and successful operation for nearly two years. A locomotive and train of the International and Great Northern Railway Company is shown crossing the causeway. The structure cost over one and a half million dollars. The height of the roadway is 16ft. above the average low tide. The total length of the structure is 10,642ft., or a little over two miles. The great work is divided into four sections, in which there are 22,000ft. of unprotected roadway; 6,183ft. of protected roadway; arch bridge, 2,358ft., and lift bridge, 100ft.

The protected roadway portion has a total width of 110ft., carrying 30ft. of county road; 20ft. for a double track for interurban car traffic; 50ft. for double track steam railway

and room for a third track. There is also 2 ft. 6 in. of a concrete slope on one side, and 14 ft. 6 in. concrete slope on the other side. The arch bridge portion has a width of 6 ft., carrying 22 ft. for county roadway; 15 ft. for single track interurban, and 20 ft. for double steam railway track. The bridge portion consists of 28 arches, with spans extending to 70 ft., with 11 ft. 6 in. rise. The foundations for the arches vary from 11 ft. to 16 ft. below the bottom of the bay. A rolling lift bridge is provided, having a width of 32 ft. 6 in., carrying 2 ft. for county road and interurban track, 20 ft. 6 in. for double steam railway track. The causeway has two lines of hand railing 3 ft. high, on both sides of the county

The structure extends about three-quarters of a mile beyond the right of the point shown in the illustration. The degree of smoothness and exactness that leave nothing to be desired in the construction of the causeway is a remarkable achievement. The causeway is a fine example of modern railway architecture, and it is a major improvement over the old station and viaduct. The new station and viaduct are a major improvement over the old station and viaduct, and they provide a more convenient and comfortable way for passengers to travel between the city and the waterfront.

way is the entrance proper of the International and Great Northern Railway.

highly straight north-eastern line through a rich country to Longview, where it connects with the Texas and Pacific. On the Gulf of Mexico there is besides the main line running from Galveston a connection starting from a point further down the coast at Velasco and joining the main line at Houston. The line from Laredo and the line from Galveston cross each other at Valley Junction, Texas, a large and growing railway centre.

The region traversed by the growing railway is, our contemporary remarks, coming into great favour as a winter resort for northern tourists, and coincidentally the railroad is rising to the occasion and the equipment is excellent. It is the quickest and most direct route for traffic between St. Louis and all points north and east, and to Texas and Mexico, and is rapidly coming into marked prominence as an important link in the network of railways that has opened up the wealth of the rich South-west. The last season was the most prosperous in the history of the enterprising railway.

### A SERIOUS COLLISION AT YEOVIL.

A serious collision took place on Friday night, August 8th, at Yeovil Station, on the Great Western Railway, whereby two women passengers were killed and eight passengers were injured some very seriously. The 2.42 p.m. excursion train from Paddington to Weymouth, which was due to arrive at Yeovil at 5.33, was over half-an-hour late. It was standing at the platform about 6.20 when an express train ran into the rear coach. This coach was almost wholly smashed; the rest of the train escaped.

The inquest on the two victims of the accident was held on Monday last at the Town Hall, Yeovil, with Mr. E. Q. Louch as coroner.

Mr. J. E. Bowen, solicitor for the Great Western Railway Company, said he desired on behalf of the Chairman (Lord Churchill) and the other directors, to express their very great regret at the lamentable occurrence which the jury was to inquire into. They wished the public to know how sincerely sorry they were at the accident. The speaker never remembered any other accident in which so large a proportion of those involved had met with such serious and permanent injuries. The company desired it to be known that they accepted the fullest responsibility in the civil sense. It was not, of course, within the jurisdiction of that Court to try that question, but it was only fair and right that it should be made known that the company would deal with any claims that properly arose out of the accident with all reasonable despatch.

William Shaw, the guard of the excursion train, said that the accident occurred six or seven minutes after they arrived at Yeovil. He was in the last coach but one, and on seeing the other train approaching he jumped out. It was a fairly full train, and between Frome and Yeovil about one hundred passengers got out. There were fifteen to twenty passengers in the last coach. The train comprised six coaches and a brake van.

George Rixon, a guard in the employment of the Great Western Railway Company, said he was on the Paddington to Weymouth express, due to start at 1.20 p.m. It was shortly after 1.30 p.m. that he checked at Yeovil north of the signal box, but was not quite brought to a standstill. It continued to run at four or five miles an hour. The distant signal was against it, but both home signals were lowered, so that they were justified in going on. His train comprised five coaches and two vans. He was standing up in his van at the time of the collision, and was thrown from one side to the other. The speed was reduced before they got to the distant signal.

A Jurymen: This distant signal was against you, and yet you went on as usual?

Witness: Yes.

The railway district superintendent explained that the distant signal was not a signal to stop. It was only to warn the train to be slow.

The witness observed that whether the distant signal was a signal to stop or a signal to be slow, it was always a signal to be slow.

One of the drivers of the express train, and he had been in the service of the railway company forty years, and had been a driver for thirty years. He had been accustomed to run the express train through Yeovil Station

and was well acquainted with the signalling arrangements. He came on duty on the day of the accident at 11.20 a.m. to work till about 11 p.m. He would not have had any hours off duty in the intervening time. He had gone off duty on the previous day at 5.30 p.m. He brought his engine through from London, had coupled it at Swindon to the 1.20 p.m. train, and intended to run it from there to Weymouth. His brakes were in good order. He had frequent opportunities of trying them that morning and they had always worked well. He was thoroughly satisfied with their condition. His train was checked at Castle Cary and Marston Magna, but at neither of those places was it actually brought to a standstill. When he first sighted the down distant signal it was at danger. He checked up, shut off steam, and applied the brake. The next signal he came to was the outer home signal. That was also at danger. When he first sighted it he kept his train under control, and before he reached the signal it was pulled down for him. The inner home signal was also at danger when he first sighted it, but was lowered before he reached it. The starting signal was also at danger. It was before he got to the signal-box that he first saw the starting signal and noticed that it was at danger. He made it a practice always to look at the signal-box, and as he was passing the box he looked up and saw the signalman making signs to him. Owing to his being puzzled as to what the signalman meant he allowed his engine to run up abreast of the starting signal and pass it. It was not until after he passed the starting signal that he realised there was danger. Steam in his engine had already been turned off, and so he applied his brakes at once. The other train was only about an engine's length in front of him when he first saw it, and he estimated his speed when the collision occurred at from three to four miles an hour.

The Coroner: Would the accident have happened if you had not been considering what the signalman meant?—I don't know, sir, about that, but it took me off my guard for the moment.

I put it to you that you passed the signal on this occasion on account of forgetfulness?—I did not forget. I did not anticipate there being any train there when the other signals were lowered for me.

Would it be the duty of the signalman to present a red flag from his window as a sign of danger besides having the signals blocked?—Yes.

If you had not been reflecting as to his meaning you would not have passed that starting signal?—No, sir, I would not.

Therefore am I right in suggesting to you that you did pass it owing to momentary forgetfulness. I cannot put it in any other way?—It seems rather out of place.

Is there any other explanation you can offer to the jury if it was not that?—No, sir, I have got no other excuse.

The jury, after a brief deliberation, returned a verdict of death through misadventure, and added a rider to the effect that the accident was brought about by the failure of Driver Thomas Fowler to observe the North Box starting signal, and that such failure arose from a momentary distraction of attention, and not from culpable negligence. At the same time they expressed their sympathy with the driver.

Colonel Von Donop held a Board of Trade inquiry in private into the cause of the disaster.

### PROPOSED NEW RAILWAY FROM LONDON TO THE CRYSTAL PALACE.

Arrangements are being made for promoting a Bill next session of Parliament a Bill to authorise the construction of a tube railway from the Strand, London, to the Crystal Palace on the Kearney system. This system, which differs materially from the method of construction and working of existing tube railways, has frequently been described, though no line of the sort appears to be in operation anywhere. The project, the cost of which is placed at £3,000,000, is being advanced by Mr. E. W. Chalmers Kearney, the Australian inventor. The cars run on a single rail, with a guide rail overhead. The scheme, as explained by Mr. Kearney, provides for a tube for the train and a half mile to Heme Hill, whence the remainder of the line would be above ground except for the final 500 yards, which would be in a cut and cover tunnel. The six stations—Westminster Bridge, the Oval, Finsbury and Heme Hill and the two termini—would







# RAILWAY STOCK AND SHARE LIST.

### HOME RAILWAY ORDINARY STOCKS.

[illegible]

### Debenture Stocks.

[illegible]**Debenture Stocks** (continued)[illegible]

### Preference Stocks—

(continued).



## RAILWAY STOCK AND SHARE LIST.

### Colonial Railways.

### Foreign Railways.

CLOSING PRICES.				NAME.		CLOSING PRICES.			
Last Week.		Last Week.		Last Week.		Last Week.		Last Week.	
Alloy & Gandia, 4% Debs.	37	36	37	39	44	46	46	46	46
Amalgamated Chile & Biv. Pl. Ord.	102	104	102	104	108	110	108	110	110
Do. Pref. Ord.	103	105	103	105	108	110	108	110	110
Do. 5% Cum. Pref.	103	105	103	105	108	110	108	110	110
Aracón, Ord.	104	106	94	104	104	104	104	104	104
Argentine G. Western, Ord.	98	95	98	95	103	105	103	105	105
Do. 5% Cum. Pref.	104	106	103	105	108	110	108	110	110
Argentine N. E. Stock	104	106	102	103	102	102	102	102	102
Argentine Transand. 7% Debs.	12	13	12	13	12	13	12	13	13
Arica & Tarica, Shares	4	4 1/2	4	4 1/2	4	4 1/2	4	4 1/2	4 1/2
Bailia-Belena & N.W. Guar. Sdk.	86	88	86	88	86	88	86	88	88
Bilbao River & Canal, Ord.	51	52	52	54	51	52	51	52	52
Bolivar, 3% Pref.	74	74	74	74	74	74	74	74	74
Brazil Great Southern, 7% Pref.	5	5	5	5	5	5	5	5	5
Brazil North East 3d 1st Debs.	8	8	8	8	8	8	8	8	8
Buenos Ayres & Pacific, Ord. Sdk.	35	35	35	35	35	35	35	35	35
Do. 1st Pref. Sdk. Cum.	15	15	15	15	15	15	15	15	15
Buenos Ayres Cent. 4 1/2% 1st Mt. Debs.	118 1/2	118 1/2	117	117	118	118	118	118	118
Do. 4% Extension Shares.	108	108	108	108	108	108	108	108	108
Do. Pref. Stock	112	114	111	111	112	112	112	112	112
Buenos Ayres Midland 5% Pref.	34	34	34	34	34	34	34	34	34
Buenos Ayres Western, Ord. Sdk.	118 1/2	118 1/2	118 1/2	118 1/2	118 1/2	118 1/2	118 1/2	118 1/2	118 1/2
Do. 5% Pref.	104	104	104	104	104	104	104	104	104
Cartagena Chiles, 3% 1st Mt. Debs.	40	43	35	42	44	44	44	44	44
Central Argentine Cons. Ord. Sdk.	103	104	101 1/2	102 1/2	103	103	103	103	103
Do. Deferred Sdk.	102	104	102	104	102	104	102	104	104
Central Uruguay, Ord. Sdk.	99 1/2	100 1/2	99 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2
Central Uruguay Eastn. Extn.	7 1/2	8 1/2	7 1/2	8 1/2	7 1/2	8 1/2	7 1/2	8 1/2	8 1/2
Do. 1st Pref. Sdk.	94	94	94	94	94	94	94	94	94
Central Uruguay, Ord. Sdk.	101	103	100 1/2	102	102	102	102	102	102
Chilian Transandine, 6% Debs.	81	83	81	83	81	83	81	83	83
Colombian National, 6% 1st Mt. Debs.	86	88	86	88	86	88	86	88	88
Colombian Nat. Custom, 6 1/2% Debs.	79	81	79	81	79	81	79	81	81
Colombian North-east, 6% Debs.	64	66	64	66	64	66	64	66	66
Ci. E. C. de F. de la P. de la P. de la P.	46	47	43	45	46	46	46	46	46
Cordoba Central, Ord. Debs.	33	35	33	35	33	35	33	35	35
Do. 1st Pref. Sdk.	33	35	33	35	33	35	33	35	35
Do. 5% Cum. 1st Pref. Sdk.	75	77	73	75	75	77	75	77	77
Do. 1st Pref. Sdk.	55	57	53	55	55	57	55	57	57
Costa Rica, 4% 1st Mt.	42	42	42	42	42	42	42	42	42
Cuba, 10% 1st Mt. 4% Debs.	100	102	100	102	102	102	102	102	102
Cuban Central, Ord.	54	54	44	44	44	44	44	44	44
Do. 5% Pref.	94	104	94	104	94	104	94	104	104
Curaca, 6% 1st Mt. Debs.	97	99	97	99	100	102	100	102	102
Curaca, 4% 1st Mt. Debs.	54	54	54	54	54	54	54	54	54
Egyptian Debt, 5 1/2% C. M. P. Shares	73	88	73	84	73	84	73	84	84
Entre Rios, Ord. Stock	62	64	60	62	76	80	76	80	80
Do. 1st Pref. Stock	50	52	48	50	50	52	48	50	50
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100	100	100	100	100	100
Guayaquil, 4% 1st Mt. Debs.	100	100	100	100</					

### American Railways.

[illegible]

# OFFICIAL TRAFFIC RETURNS.

## Barry.

Week ending August 10	1913.	1912.
Passengers, etc.	£11,705	£13,293
Goods, etc.	£11,705	£11,705
Total for week	£23,410	£25,000
Aggregate for 32 weeks	£749,120	£799,120
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Caledonian.

Week ending August 10	1913.	1912.
Passengers, etc.	£11,705	£11,705
Goods, etc.	£11,705	£11,705
Total for week	£23,410	£23,410
Aggregate for 32 weeks	£749,120	£749,120
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Cambrian.

Week ending August 10	1913.	1912.
Passengers, etc.	£11,705	£11,705
Goods, etc.	£11,705	£11,705
Total for week	£23,410	£23,410
Aggregate for 32 weeks	£749,120	£749,120
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Central London.

Week ending August 9	1913.	1912.
Passengers, etc.	£2,647	£4,419
Goods, etc.	£159,141	£146,520
Total for week	£161,788	£150,939
Aggregate for 32 weeks	£5,277,424	£4,830,048
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## City and South London.

Week ending August 9	1913.	1912.
Passengers, etc.	£2,647	£4,419
Goods, etc.	£159,141	£146,520
Total for week	£161,788	£150,939
Aggregate for 32 weeks	£5,277,424	£4,830,048
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Dublin and South Eastern.

Week ending August 9	1913.	1912.
Passengers, etc.	£2,647	£4,419
Goods, etc.	£159,141	£146,520
Total for week	£161,788	£150,939
Aggregate for 32 weeks	£5,277,424	£4,830,048
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Furness.

Week ending August 10	1913.	1912.
Passengers, etc.	£6,137	£5,138
Goods, etc.	£6,510	£6,509
Total for week	£12,647	£11,647
Aggregate for 32 weeks	£398,183	£291,575
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Glasgow and South Western.

Week ending August 9	1913.	1912.
Passengers, etc.	£25,400	£24,800
Goods, etc.	£21,700	£21,700
Total for week	£47,100	£46,500
Aggregate for 32 weeks	£1,491,700	£1,491,700
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Great Central.

Week ending August 9	1913.	1912.
Passengers, etc.	£40,800	£37,100
Goods, etc.	£102,800	£98,500
Total for week	£143,600	£135,600
Aggregate for 32 weeks	£4,614,400	£4,337,600
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Great Eastern.

Week ending August 9	1913.	1912.
Passengers, etc.	£10,400	£8,800
Goods, etc.	£4,400	£4,400
Total for week	£14,800	£13,200
Aggregate for 32 weeks	£469,600	£431,700
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Great Northern.

Week ending August 9	1913.	1912.
Passengers, etc.	£85,600	£80,600
Goods, etc.	£61,000	£61,000
Total for week	£146,600	£141,600
Aggregate for 32 weeks	£4,691,200	£4,531,200
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Great Northern (Ireland).

Week ending August 10	1913.	1912.
Passengers, etc.	£13,080	£13,080
Goods, etc.	£8,400	£8,400
Total for week	£21,480	£21,480
Aggregate for 32 weeks	£687,360	£687,360
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Great North of Scotland.

Week ending August 9	1913.	1912.
Passengers, etc.	£12,370	£11,220
Goods, etc.	£13,580	£12,950
Total for week	£25,950	£24,170
Aggregate for 32 weeks	£830,400	£773,440
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Great Southern and Western.

Week ending August 9	1913.	1912.
Passengers, etc.	£20,435	£19,662
Goods, etc.	£12,740	£12,740
Total for week	£33,175	£32,402
Aggregate for 32 weeks	£1,061,600	£1,038,464
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Great Western.

Week ending August 9	1913.	1912.
Passengers, etc.	£235,000	£215,000
Goods, etc.	£103,000	£106,000
Total for week	£338,000	£321,000
Aggregate for 32 weeks	£10,816,000	£10,272,000
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Highland.

Week ending August 9	1913.	1912.
Passengers, etc.	£12,000	£11,800
Goods, etc.	£4,077	£3,991
Total for week	£16,077	£15,791
Aggregate for 32 weeks	£514,072	£503,472
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Hull and Barnsley.

Week ending August 10	1913.	1912.
Passengers, etc.	£793	£681
Goods, etc.	£14,018	£15,894
Total for week	£14,811	£16,575
Aggregate for 32 weeks	£475,152	£530,160
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Lancashire and Yorkshire.

Week ending August 9	1913.	1912.
Passengers, etc.	£1,100	£1,100
Goods, etc.	£1,100	£1,100
Total for week	£2,200	£2,200
Aggregate for 32 weeks	£70,400	£70,400
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## London, Brighton and South Coast.

Week ending August 9	1913.	1912.
Passengers, etc.	£3,500	£3,500
Goods, etc.	£3,500	£3,500
Total for week	£7,000	£7,000
Aggregate for 32 weeks	£224,000	£224,000
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## London Electric.

Week ending August 9	1913.	1912.
Passengers, etc.	£145,580	£145,580
Goods, etc.	£145,580	£145,580
Total for week	£291,160	£291,160
Aggregate for 32 weeks	£9,317,440	£9,317,440
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## London and North Western.

Week ending August 10	1913.	1912.
Passengers, etc.	£233,000	£219,000
Goods, etc.	£233,000	£219,000
Total for week	£466,000	£438,000
Aggregate for 32 weeks	£14,912,000	£14,016,000
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## London and South Western.

Week ending August 9	1913.	1912.
Passengers, etc.	£103,500	£95,000
Goods, etc.	£103,500	£95,000
Total for week	£207,000	£190,000
Aggregate for 32 weeks	£6,624,000	£6,080,000
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Metropolitan.

Week ending August 10	1913.	1912.
Passengers, etc.	£13,415	£13,415
Goods, etc.	£13,415	£13,415
Total for week	£26,830	£26,830
Aggregate for 32 weeks	£858,560	£858,560
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Metropolitan District.

Week ending August 9	1913.	1912.
Passengers, etc.	£195,000	£195,000
Goods, etc.	£195,000	£195,000
Total for week	£390,000	£390,000
Aggregate for 32 weeks	£12,480,000	£12,480,000
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Midland.

Week ending August 9	1913.	1912.
Passengers, etc.	£195,000	£195,000
Goods, etc.	£195,000	£195,000
Total for week	£390,000	£390,000
Aggregate for 32 weeks	£12,480,000	£12,480,000
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Midland Great Western of Ireland.

Week ending August 9	1913.	1912.
Passengers, etc.	£8,430	£7,111
Goods, etc.	£4,225	£4,142
Total for week	£12,655	£11,253
Aggregate for 32 weeks	£405,040	£364,096
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## North British.

Week ending August 9	1913.	1912.
Passengers, etc.	£50,800	£47,500
Goods, etc.	£59,900	£59,700
Total for week	£110,700	£107,200
Aggregate for 32 weeks	£3,542,400	£3,430,400
Miles open	10	10
Inc. this week, £500		
Inc. 32 weeks, £295,000		

## North Eastern.

Week ending August 9	1913.	1912.
Passengers, etc.	£127,135	£112,137
Goods, etc.	£235,742	£226,476
Total for week	£362,877	£338,613
Aggregate for 32 weeks	£11,612,064	£10,835,616
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## North London.

Week ending August 9	1913.	1912.
Passengers, etc.	£4,116	£4,116
Goods, etc.	£4,116	£4,116
Total for week	£8,232	£8,232
Aggregate for 32 weeks	£263,424	£263,424
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## North Staffordshire.

Week ending August 10	1913.	1912.
Passengers, etc.	£10,800	£9,900
Goods, etc.	£8,000	£8,000
Total for week	£18,800	£17,900
Aggregate for 32 weeks	£601,600	£572,800
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Rhymney.

Week ending August 10	1913.	1912.
Passengers, etc.	£1,450	£1,450
Goods, etc.	£1,450	£1,450
Total for week	£2,900	£2,900
Aggregate for 32 weeks	£92,800	£92,800
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## South Eastern and Chatham.

Week ending August 10	1913.	1912.
Passengers, etc.	£10,800	£9,900
Goods, etc.	£8,000	£8,000
Total for week	£18,800	£17,900
Aggregate for 32 weeks	£601,600	£572,800
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

## Taff Vale.

Week ending August 10	1913.	1912.
Passengers, etc.	£1,450	£1,450
Goods, etc.	£1,450	£1,450
Total for week	£2,900	£2,900
Aggregate for 32 weeks	£92,800	£92,800
Miles open	10	10
Inc. this week, £24		
Inc. 32 weeks, £49,000		

Notes and Explanations:—  
 1. The figures are for the week ending August 10, 1913, and for the corresponding week in 1912.  
 2. The figures are for the week ending August 10, 1913, and for the corresponding week in 1912.  
 3. The figures are for the week ending August 10, 1913, and for the corresponding week in 1912.  
 4. The figures are for the week ending August 10, 1913, and for the corresponding week in 1912.  
 5. The figures are for the week ending August 10, 1913, and for the corresponding week in 1912.  
 6. The figures are for the week ending August 10, 1913, and for the corresponding week in 1912.  
 7. The







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time the whole percentage of net receipts to the total paid-up capital of all the railways is only about  $3\frac{1}{2}$  per cent., and under no conceivable conditions, even of State ownership, could it be possible to work the railways at the demands of the men were granted. It is no doubt annoying to shareholders, when the railways seemed on the point of recovery from difficulties which have so long overshadowed them, to find labour troubles recrudescent, but it would be a mistake to take the matter too seriously. The Conciliation scheme cannot be abandoned until November of next year and, even if further concessions then become necessary, the principle has been recognised by Government in the new Railway Act that the railways are entitled to recoup increases in wages by increased charges. Any new burdens will have to be shared by the public and will not fall on shareholders only.

### PRICES AND THE RATE OF INTEREST.

The diagram given on another page of this issue illustrates very clearly the remarkable relation by which current rates of interest are associated with prices. Such a relation has always been known, but it has been known hitherto rather as a theoretic deduction from abstract data than as a relation capable of being practically demonstrated from accepted facts. In dealing with prices, economists have allowed their attention to be occupied too exclusively with dealings in circulating capital, of which wheat, iron and wool are common examples, and have not sufficiently taken account of the effect produced by transactions in fixed property such as land, buildings, railways and, of course, railway stocks and shares, and securities generally. It will be observed, by comparing the upper portion of the diagram with the lower, that disparities between the Bank Rate and the numbers prepared by Mr. Sauerbeck, as an index of the prices of commodities, are in almost every instance adjusted by the intervention of numbers prepared on like principles to form an index of the prices of Stock Exchange securities. In the general behaviour of the market, the Bank Rate from year to year is seen to conform with notable exactness. This is a testimony to the power of competition to order the working of human activities, it is a testimony also to the wisdom with which the business of Banks and credit dealers generally in this country is conducted. There are many cases, however, in which the competition is imperfect, and new methods of business are accordingly needed. For all the competition there are indications that in the current Bank Rate, and that indicating the changes in prices generally, hug one another so closely, dealers in credit of commodities are so completely in competition with each other to provide the trading world with money at a profit to themselves. It was only now and again that their ardour in this pursuit so far outran discretion that some of them were for a time obliged to consider another point, *i.e.*, whether they could be sure of being able to keep their doors open. Immediately this point becomes a matter for serious consideration the business must be conducted on a different principle. Interest must not be charged at rates designed to extend the business must be calculated, so as to contract it. Such condition prevailed in the early days of the Bank of America, and in the United States of America were reflected over here, as will be within recollection of most of our readers. Although the period under review extends over a number of years, nearly as many as are usually allotted to a "generation," and although the output of the world's mines has been almost quadrupled, yet there is little indication in the disposition of the lines that any abnormal alteration of the conditions underlying finance has been in operation. Possibly a still longer sequence of

years may be necessary to demonstrate an effect, but the inference seems clear that the quantity of gold in the world has less influence upon its finances than is commonly ascribed to it.

### LONDON RAILWAY ELECTRIFICATION.

The electrical part of the work for the new London and North Western line from Euston to Watford and for the conversion of various steam lines in and near London worked by the same company is now well under way. The portion of the work likely to take the longest time is the erection and equipment of the electric generating station. But for this a good deal of electric running might be in operation within a year. The London and South Western Railway scheme of conversion of suburban lines, which was later in being inaugurated, is of course further back, but it is understood that all possible speed will be made both with the power station and with the equipment of the lines. The development which is imminent is that in connection with the Baker Street and Waterloo Railway. The tunnels of the extension from Edgware Road to Paddington are through, and the permanent way and equipment are far advanced. It is probable that trains will be running to Paddington before the end of the year, and the Great Western terminus will thus be put into direct communication by an interchange station with the tube railway system of the metropolis. The work of constructing the tunnels for the further extension of the Baker Street and Waterloo line from Paddington to a junction with the London and North Western electric line at Queen's Park, Willesden, is now far advanced, and it is likely that twelve months hence the "Bakerloo" trains will be running to Queen's Park. The ultimate scheme of running them out to Watford cannot be brought into being till the London and North Western Company's electrification is complete, as that company will of course supply the electricity for all trains on its own line.

### INDIAN RAILWAY FINANCE.

The financing of the railways in India is one of those problems that it would be presumptuous for anyone to try and solve unless he was fully conversant with all the facts of the case. Nevertheless there are some questions on the subject that even a person only partially acquainted with the difficulties may be excused for asking. The railways in that empire have been paying over five per cent. for many years past. The Government can borrow money at a nominal rate of less than five per cent. that a sufficient margin would be left to allow of an effective sinking fund being established. And yet, for some reason which is not at all clear to anyone, no settled programme has been fixed, and the progress of urgently required lines is stopped because money is wanted elsewhere for non-paying purposes. In the annual reports of the Railway Board no attempt is made to explain this seeming anomaly. From the same source we gather that of the purchase price of the four railways worked by the companies and purchased from them by Government, the Government had to be paid out in about 1901, 1902, and 1903, about £100,000,000 out of a total revenue of about 14½ million pounds, instead of being charged to capital, as it ought to be. People are naturally asking why this redemption of capital is considered necessary or expedient, and whether it would not be advantageous in every way to reconvert the annuities into shareholders. Taking the three railways worked directly by the Railway Board, it will be found that their total capital amounts to £74,932,801, and that they pay from 14½ to 15 per cent. It is suggested that half of them might be disposed of to companies as commercial undertakings, thereby relieving the Government of a great burden of work, which it is not to their advantage in any way that they should bear, and enabling



the whole of the commercial lines in India to be carried on a sound financial basis. The shares would be taken up by the public, who would thus provide much of the capital that is so urgently required. The transfer of the establishment need offer no difficulty, as many Government servants are continually being taken over by the companies, and *vice versa*. It would be as well, indeed, if the Government half of these railways were also worked by the companies, subject to the present very capable check. It is incorrectly averred that all the trunk lines have now been constructed except the Delhi-Karachi broad gauge direct; this is not true, but even if it were the required number of branches, to facilitate intercommunication and as feeders to the ports, is ever increasing. The trunk lines still wanting are those that connect the Eastern Provinces with their neighbours on the West, and with China on the East. One of the branches which would have paid for itself during the last disastrous floods on the East Indian Railway has been urged for some fourteen years. The floods have entirely dislocated the trade of Calcutta, and the town and port were entirely cut off from the collieries and from up country districts; had the chord line between Bisenpur and Howrah been constructed, it would have afforded an alternative route from Northern India and from the Bengal collieries. The enormous amount of funds obtained from India that are locked up in loans to banks in this country does not come under the purview of the authorities out there, and does not therefore form part of the puzzles contained in the Railway Board's report, although the policy that governs the disposal of these vast sums is equally inexplicable to the great majority of people and irritating to those who would like to see the resources of the Indian Empire adequately developed, to the great advantage of her teeming millions and to a welcome increase of our dealings with them.

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways for the week ended August 17 gives a total of £2,734,472, which was earned on 21,048 miles, being at the rate of £124 11s. 9d. per mile of line open. For the corresponding week of 1912 the receipts of the same lines amounted to £2,635,080, with 21,890 miles open, or £120 8s. 4d. per mile. Thus there was an increase of £98,492 in the receipts, an increase of 58 in the mileage, and an increase of £4 3s. 5d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £112,630 (or £5 1s. 2d. per mile) in the passenger receipts and a decrease of £16,521 (or 18s. 4d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the thirty-three weeks in the passenger receipts has been £2,296,105, while the aggregate increase in the goods traffic was £4,091,885. The aggregate receipts of the fifty railways for thirty-three weeks (December 29 to August 17) amounted to £75,890,625, in comparison with £69,310,561 last year, an increase of £6,580,064, not including receipts from certain canals, etc.

### RAILWAY DIVIDENDS DUE.

## MONEY AND STOCK MARKETS.

Continuation of last week.	Ticket Days.	Pay Day.
Minors .....	General ..	27
General .....	General ..	10
Minors .....	General ..	
General .....	General ..	

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Last Year.
Bank's Cash and Balances .....	£41,089,690		
Total Liabilities .....			
to Liabilities .....	58.02 p.c.	58.07 p.c.	49.80 p.c.
Notes in Circulation .....	£29,574,040		
Bank's Note .....	44 p.c.		
Open Market Discount .....			34 p.c.
Bankers' Clearing House .....			
Silver bars, per oz. (spot) .....			
Consols (account) .....	74		
French 3 per cent. (acc.) .....	87.50c.		
Paris Cheque exchange .....	24.45		25.27c.
New York 90 days ditto .....			
Rio de Janeiro exchange .....			
Valparaiso 90-day exch'e .....			
Calcutta transfers .....	15.34d.		
Hong Kong transfers .....			
Shanghai transfers .....			

per cent. Jan.	per cent. Oct. 21.	per cent. Nov. 1912.
100.00	100.00	100.00
100.00	100.00	100.00
100.00	100.00	100.00
100.00	100.00	100.00
100.00	100.00	100.00
100.00	100.00	100.00
100.00	100.00	100.00
100.00	100.00	100.00
100.00	100.00	100.00
100.00	100.00	100.00

The position of the Bank is again shown to have improved. Its assets are now valued at £542,000, rather more than half of which arrived from South America, the remainder being "bars." From the provinces £780,000 was received, while the active note circulation contracted by £2,310,000. On the other hand, £100,000 was withdrawn for Turkey, the Asiatic provinces of the Sultanate having enjoyed an exceptionally good growth of crops. An addition of £1,450,000 is therefore made to the Bank's Reserve, which thereby is brought to a level nearly that amount higher than obtained at the corresponding date of last year, when the official minimum rate of discount was one and a half per cent. lower. Public and Other Deposits are both of them approximately a million pounds up, part of the increase in the latter being apparently borrowed since Other Securities have been augmented by £573,000. The meaning of this last movement, however, is not clear. Private Deposits have now reached the figure of forty three millions and more, so that according to recent precedent, there should be no need for the market to borrow from the Bank. As the result of all changes the ratio of Reserve to the liabilities of the Bank is about half a point higher at 58.7 per cent. Both in this aspect and in absolute amount the Reserve is now exceptionally high, and accords very satisfactorily with the exceptional times through which we are passing. This time last year expansion of trade was world-wide. Now



# BANK RATES AND PRICES.

By R. W. WILSON.

In a former article it was shown that variations in the flow of exchange are proportional to variations in the "quantity of money." The relations created by modern conditions of finance between prices and rates of interest can now be explained. It will be expedient to use the same symbols with the same meanings as before, and they are here set out again for the convenience of readers.

$V$  is the quantity of the circulating medium in physical units of standard value.

$M$  is the average level of prices for the things dealt with in a unit of time, each thing being multiplied by the number of times it passes in exchange, also measured in physical units of standard value.

The relations between them may, then, be shortly rendered thus—

$\frac{F}{V}$  is a measure of the average rate at which exchanges follow one another, and inversely,  $\frac{V}{F}$  measures the average duration of exchange.

$\frac{M}{V}$  gives the general level of prices for the things dealt with, presented as an index number.

$\frac{M}{F}$  is invariable, as already shown. The argument on which this rests may be summarised briefly in the following way:—All buyers in a market at a typical moment are expecting goods at certain dates. Between them, therefore, the expectation is of goods delivered at a certain rate, so that the joint expectation of buyers is  $F$  in physical units of standard value. All sellers are expecting money there and then, not in the future, because that is never money, but something—a good—to be bought and sold with money, their joint expectation is therefore  $M$ . But buyers and sellers consist of the same persons, and both joint expectations in the aggregate are therefore, expectations of orderly and continuous commercial activity. The two quantities must therefore expand and contract together in proportion to the expansion and contraction of the expectation represented by either. Hence the ratio between them must be constant.

The several forms of money circulate contemporaneously when business is unconstrained, each finding its natural scope in circumstances which render it most serviceable to users. No one brings a cwt. of sovereigns to the office of his stockbroker in settlement for the purchase of £5,000 Consols or offers a cheque to the booking clerk at a wayside railway station. The several forms are equally sufficient in their several territories and competition along frontiers ensures that all command the same rates for hire, though their equality in this respect is obscured by the fact that quoted rates always include a charge made by way of insurance against risk of delay or failure to repay.

The money by which most of the business transactions in this country are effected is that form of immaterial money known as Bankers' credit, and this, taking all the banks and credit institutions of the United Kingdom together, is created by discounts and overdrafts, or loans of some kind, save on those occasions, relatively few, when banks receive imported gold or legal tender withdrawn for the time being from circulation among the people. There would be no limit to the amount of this kind of money which might be created were it not that bankers are under the necessity of paying cheques in cash, that is to say, in gold or legal tender, whenever that is required of them, in order to preserve the confidence they inspire. The first object of any banking firm is to keep open, —i.e., to exist. No doubt can be permitted as to their ability to do this. All banks are therefore obliged to restrict the accommodation they afford so as to limit their total credits to such a multiple of their total available cash as will insure the fulfilment of this condition. To determine this multiple is an essential part of the practical business of banking. It turns upon circumstances which differ from time to time and from place to place, the personal factor is often involved, and no fixed general rule can be formulated with regard to it. The multiple in which the whole credit stands to the total cash of all banks is therefore the outcome of the judgment of each individual banker or credit dealer, exercised in light of the

more or less accumulated wisdom of experience in the past. A multiple safe enough in a period of steady trade, aiming only at the satisfaction of ascertained wants, would be dangerously high in a time of speculative activity, when traders were anticipating wants which might never arise. The readiness with which gold may be procured has also to be considered. A comparatively high multiple may prevail when gold is easily accessible, but unless bankers know that there are sources of supply or stocks of the metal to which they can resort as occasion requires, they seek to work with a lower multiple. The next object of banks is to earn a profit in pursuance of which bankers must promote the circulation of their own credit as embodied in their own notes and their customers' cheques in competition with other forms of money. With gold, the competition takes place almost entirely in the field of convenience. Adam Smith established the principle that bankers cannot issue more notes than will suffice to displace the cash traders must needs keep in their tills if the notes were not issued. But no form of banker's credit will take the place of legal tender unless it better serves the conveniences of traders by saving time and trouble or reducing the likelihood of loss by accident and delay. If credit be given in excess of this, cash will be withdrawn from the banks, while competition between the latter will generally suffice to insure that the credit allowed is not less. No banker can well refuse to lend money when adequate security is forthcoming, because this is the very thing it is his business to do. If the multiple with which a bank is working be already high, a refusal to lend might cause a sale of the security offered to some depositor, followed by the withdrawal of cash and an increase of the multiple. Thus an opportunity for profit would have been lost without effecting the object for which it was sacrificed. When, therefore, demands are made upon banks for accommodation, leading to creations of credit in excess of what may be considered the suitable multiple for the time being, the charges imposed for interest and discount are augmented. By this means the demand for accommodation is weakened simultaneously also, a stronger inducement is given for deposit with the banks of gold and legal tender, thereby tending to re-establish a suitable ratio between the total credits and the total available cash, while a good profit is secured at the same time. During a crisis there is hardly any limit to the rates which may be charged, because the first object of bankers—to keep their doors open—overrides every other consideration. In ordinary times they are governed by considerations of profit.

Bankers' credit is not the only kind. Credit in its widest sense signifies the presence of a belief that money, in the common acceptance of the term, will be forthcoming if required, and bankers are not the only inspirers of this kind of faith. So long as it suffices to effect transfers of the rights of possession and to the extent to which it does so, any sort of credit is an effective competitor with bankers' credit and limits its currency much as the currency of legal tender is limited and confined by the credits created by bankers. A part of the circulating capital of every trading concern is engaged in fulfilling some of the functions of money; if this is the excess of bills receivable over bills payable, also debtors less creditors, as well as cash in hand, the profit derived from this portion of the capital will depend in a great measure upon the general rates ruling for the use of money, while on the rest of the circulating capital of the concern it will be decided by the rapidity or frequency with which the particular operations the business consists of can be repeated. In what are called good times, trade is said to be active and the general body of traders find that business is, as the expression goes, brisk; that is to say,  $\frac{F}{V}$  is increased. In such times, if rates for money remain low, traders will find it expedient to adjust the proportion in which these two parts of their circulating capital is divided. Retailers will wish to enlarge their premises or introduce time-saving appliances. Distributors will introduce new vehicles and other instruments of distribution. Manufacturers will require more machinery or better machines. The effect of these changes will be to create a demand for bankers' accommodation, which quickly increases the rates commanded by money. Conversely when trade is stagnant unless money be cheap, it will be to the advantage of traders to diminish as much as may be feasible the proportion of their capital directly employed in production or distribution, and to augment that portion of it which fulfils the uses of money. Bankers are comparatively passive in fixing rates when the



question of "flow" has not order, and usually it is the condition of trade that distribute to them what they shall charge. Consequently we should expect to find

$$R \propto \frac{1}{V}$$

i.e., rates for discount and interest vary with the speed of trade, or rates for money vary directly with the "flow of exchange" and inversely with the "volume of exchanges." This is in accordance with universal experience. High rates rule during a large flow of trade, and also when the "volume of exchanges" is small, which means when transactions are completed easily and quickly, not to say hastily. On the other hand, when trade flows in a smaller stream, or business is accomplished slowly, and with deliberation, low rates prevail. We may also write

$$R \propto \frac{1}{M} \times \frac{M}{V}$$

Here  $M$  is the quantity of money sustaining the "flow of exchange"  $F$  at the average volume  $V$ , and since in normal conditions of trade rates of interest paid for the use of money means rates secured for the use of bankers' credit in competition with private credit,  $M$  will stand for the quantity of bankers' credit employed, supplemented to some extent by private credit, and no doubt by some small modicum of coin. Respecting  $\frac{M}{V}$ , the money concerned being almost entirely of the immaterial kind, it may be treated provisionally as constant. We then have

$$R \propto \frac{1}{V}$$

as rates vary directly with the quantity of money in use and inversely with the "volume of exchanges." This seems, at first sight, in contradiction with fact. Experience as embodied in market phraseology, makes, for example, rates low because money is abundant. But the abundance of money in such cases really means there are more persons ready to lend or create money than are willing to offer acceptable security for borrowing it. Again, when rates are said to be high owing to the scarcity of money, it is because would-be borrowers are not in a position to offer the security required of them. Statistical evidence shows that the actual amount of money in use undergoes changes the contrary of those suggested by market phraseology, and the normal changes of  $R$  with respect to  $M$  and  $V$  are substantially as stated. The principal exception occurs when some particular branch of trade has become speculatively inflated or developed in advance of public requirements. If this state of things for any reason becomes suddenly apparent, many transactions are arrested, thus giving rise to an expansion of  $V$  and making  $\frac{M}{V}$  a small quantity, while  $R$  is made greater by the measures taken to restore the product of transactions. It may then be some time before the relation of the two is re-adjusted in accordance with the statement

$$R \propto \frac{1}{V} \times \frac{M}{V} \quad \text{or} \quad \frac{1}{V} \times \frac{M}{V} \propto R \propto \frac{1}{V}$$

There is, therefore, evidence to believe that the general level of money rates, discount and interest, is in the line of money expended,  $\frac{1}{V}$ , that is, that rates may be expected to vary with an index number recording aggregate changes of prices current in such transactions as are chiefly settled in cheques. This is true, but the case of commodities, such as coal, stocks and shares, to a less extent; land; building; machinery; plant; house rent and salaries, together with certain wages and goods retail. The question then arises whether any figures can be gleaned from recorded statistics by which the "flow of exchange" or "volume of exchanges" may be expressed. It is true that an index number may be obtained with sufficient approximation by obtaining index numbers for (a) commodities, and (b) services, and then combining them in a certain way, but the question arises whether the figures so obtained may be expected to follow the divergations of either one of the other two. The answer is, "No." The figures for commodities and services, taken together, are not likely to follow the divergations of either one of the other two, giving the aggregate market value of over 300 representative

was not designed for the present purpose; consequently the amount of stock hanging to the several quotations of price was not fixed according to the extent to which dealings in them were effected by credit, a respect in which stocks and shares are not so uniform as commodities. Moreover, the stocks selected comprise, to the extent of almost one-third, securities subject to influences foreign to monetary conditions in this country. However, no better figures being available these must serve. Between 1896 and 1906 inclusive the nominal amount of the stocks selected was not changed, but in order to embrace a longer period it is necessary to utilise the total aggregate market valuations of other lists of representative stock exchange securities which have since appeared in the periodical. In this way the period brought under survey may be extended from 1885 to the present date. For the purpose, such proportional changes must be made in the total figures of continuous lists as will equate them at dates on which one is superseded by another, and make one continuous record. It therefore seems expedient to take unity to represent £3,000,000,000 of the total aggregate market value of stocks in the list of the eleven years, 1896-1906, and to prepare index numbers for the years from 1885-1896 and from 1906 onwards in accordance. The fluctuations of Stock Exchange securities will thus be indicated from the data furnished by the *Bankers' Magazine*. The amount of Mr. Sauerbeck's index number corresponding to £3,000,000,000 is approximately 70, so to bring his index numbers to a strictly comparable basis it is necessary to take unity to represent 70 in Mr. Sauerbeck's numbers. For  $R$ , which represents the current rates of discount and interest, it is difficult to find any gauge. Rates quoted for day to day loans in the London market relate to a very small portion of the total quantity of created money, and charges for advances of longer duration are not solely determined by conditions of the moment. The official minimum rate of discount fixed by the directors of the Bank of England, the accepted standard by which rates of interest on loans of all kinds are adjusted throughout the Kingdom, is determined by considerations of the future as well as by those of the moment, and is subject to a regular annual flux. Hence the adoption of the Bank Rate, which, probably, offers the best gauge obtainable, seems to require that this, and all quantities compared with it, appear as averages computed over a period of at least twelve months.

In the following table is given the new index numbers thus computed, with the average actual Bank Rate for each year. It will be seen that they corroborate the statement made as to the relation between them in a remarkable way:—

Year.	Sauerbeck's Index Numbers 1896=1	Index Numbers of Stock Exchange Securities.	Average Bank Rate.
1885	100.230	12.88	2.88
1886	108.7	13.42	3.05
1887	107.4	13.93	3.03
1888	100.0	14.43	3.00
1889	100.880	15.10	3.00
1890	100.280	16.0	3.52
1891	100.280	16.880	3.20
1892	107.4	16.812	2.53
1893	107.4	16.0	3.04
1894	100.0	16.48	2.11
1895	100.0	16.285	2.00
1896	100.0	16.714	2.48
1897	100.0	16.88	2.00
1898	100.4	16.8	3.24
1899	100.4	16.8	3.07
1900	107.14	16.047	3.07
1901	100.0	16.0	3.72
1902	100.0	16.0	3.00
1903	100.0	16.0	3.00
1904	100.000	16.0	3.25
1905	100.280	16.0	3.00
1906	100.0	16.0	3.26
1907	100.0	16.48	3.00
1908	100.4	16.48	3.00
1909	100.0	16.48	3.10
1910	100.4	16.48	3.00
1911	100.4	16.48	3.00
1912	100.4	16.48	3.00

The figures given in the table are plotted on the accompanying diagram so as to render their mutual relationships more readily apparent. In the lower part of the diagram the

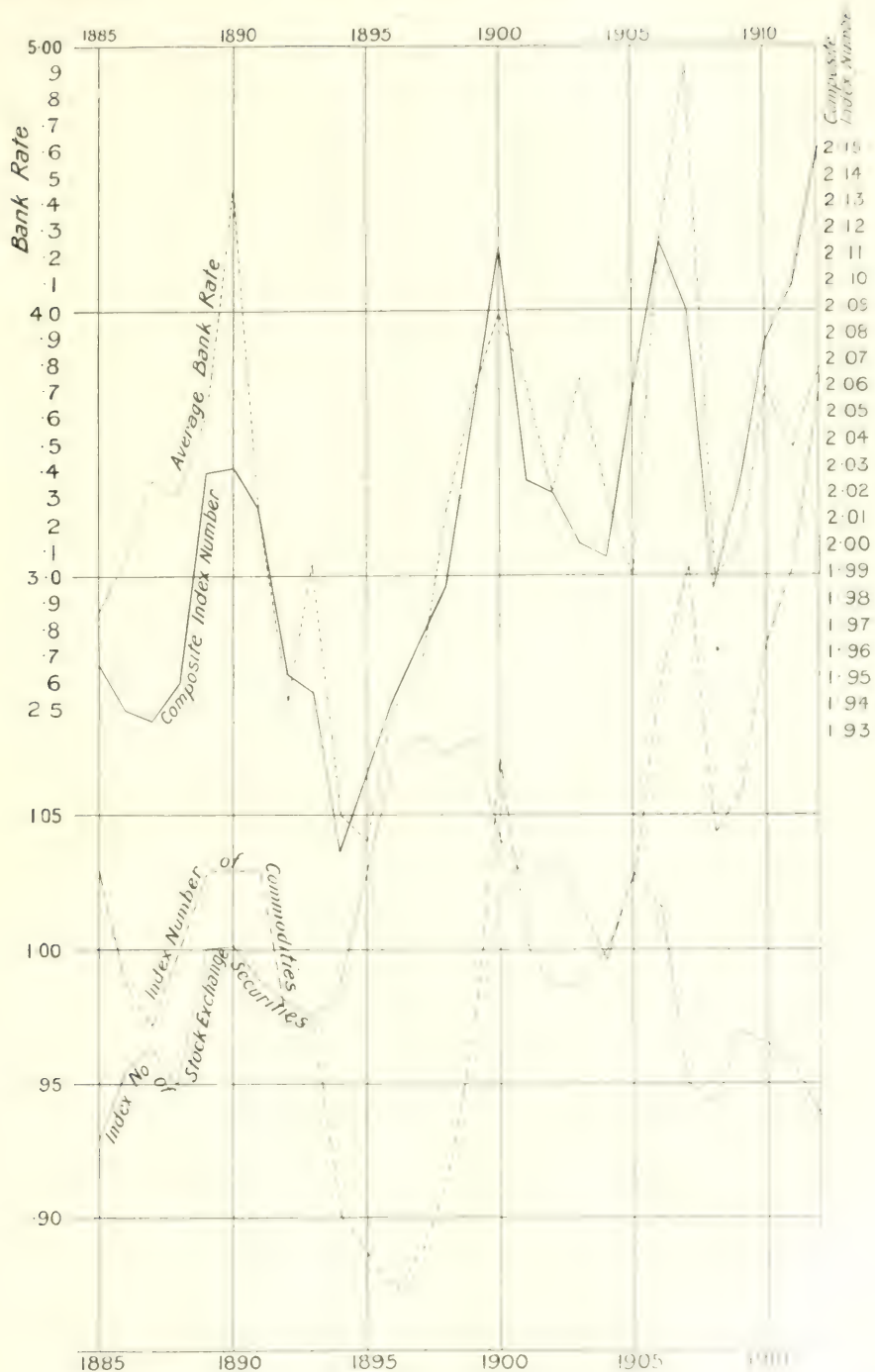


Diagram showing the relation of the Bank Rate to Prices of Stock Exchange Securities and Commodities

changes of the index number for commodities (Sauerbeck's are shown by the line of dashes, while those of the index number for Stock Exchange securities are shown by the thin full line. In the upper part of the diagram the thick full line has been obtained by adding the two index numbers, while changes in the average Bank Rate are shown by a dotted line. Their similarity is very marked in all years during which normal trading prevailed. The years 1900 and 1907 furnish the largest discrepancies. It is particularly to be noticed that the line giving the Bank Rate is above that of the composite index number during the first years of the period under review, and beneath it during the last years. Comparing this divergence with that between the two index numbers set out below, the inference must be that dealings in stocks and shares have exercised an increasing influence on rates of interest during the past twenty-five years.

### COLONIAL AND FOREIGN RAILWAY PROJECTS.

#### NEW SOUTH WALES PROPOSALS TO THE VALUE OF £3,000,000.

In the Legislative Assembly at Sydney on August 20, Mr. Griffith, the Minister for Public Works, laid on the table a proposed agreement, which had been tentatively approved by the Cabinet, with Messrs. Norton Griffiths and Co. for financing public works. The proposal involves railway construction by the company to the value of £3,000,000. The Government is to pay 5 per cent. for supervision. The Minister has power to cancel the agreement if the work is considered unsatisfactory, not expeditious, or not economical. The work is to be completed in thirty months, and the workmen are to be employed on the day-labour system. Messrs. Norton Griffiths and Co. will undertake, if the Government desires, to underwrite in the ordinary way, through one of the leading London banks, the loans to be raised by the Agent-General to an amount equalling the total value of the work in the agreement. As soon as the agreement has been signed a staff of engineers will be sent out from England.

**BUENOS AYRES.**—The Public Works Committee of the Senate of the State of Buenos Ayres on August 14 approved a Bill providing for the construction by the Government of the province of a railway system connecting La Plata, Bahia Blanca, Buenos Ayres, Sierra, Chica, Olavarría, and Mar del Plata, and authorising the issue of four-and-a-half per cent. bonds to the amount of 17,000,000 gold pesos for the construction of the lines. On August 20 the Senate approved of the scheme. In a speech the Reporter of the Bill spoke of the danger of the amalgamation of private railways, which, he said, seemed to indicate the establishment of a great Trust.

**MEXICO.**—A denial was on August 21 given to a statement emanating from Washington that President Huerta, of Mexico, had granted important railway concessions to an English group headed by Lord Cowdray.

**BRITISH GUIANA.**—The Governor (Sir Walter Egerton) has announced that the colony has been fortunate in securing the services of a skilled engineer in tropical railway construction, and he has every hope that his visit may lead to an elaboration of a definite and concrete scheme for communication with the interior.

**ESTRADA MICHUACANA.** A line, three quarters of a mile in length, is to be constructed across the Straits of Johore to enable passengers to travel by train without a break from Singapore to Kuala Lumpur, to Ipoh, to Perak, to Malacca, to Port Swettenham, to the Straits of Malacca, to the north. In addition to other railway facilities in the Malay States, an extension of the existing line is being pushed south from Province Wellesley into Kedah. It will be open for traffic as far as the Malacca River in April next, and to Alor Star, the capital of Kedah, at the end of the year. The F.M.S. and Great Eastern Railway is now open as far as Kuala Terengganu, 111 miles from Gemas, the junction of the F.M.S. and Johore Railways. It will be open to the coast at Kuala Terengganu. A branch of the line will run from Kuala Terengganu to Kuala Lumpur, 111 miles long, of which 17 miles will have a grade of about 1 in 11, the remaining 94 miles requiring a rack railway.

**CHINA.**—M. Devos, representing the Belgian syndicate which secured the concession for the Haichow-Lanchow Railway, has signed a contract for the construction of a railway from Kwei-hua-cheng to Tatung, Taiyuanfu, Tung-kuan, and Chengtu, a distance of over a thousand miles.

**SOUTH AMERICA.**—A commission of engineers has arrived at Asuncion (Paraguay) to carry out the surveys for a line from Puerto Suarez to Santa Cruz; this line forms one of those which the Farquhar syndicate proposes to build.—The Public Works Committee of the Senate have reported favourably on the petition of the Central Cordoba Railway Company to construct a line from Cordoba to Mar Chiquita. The Committee has under consideration the request of the Central Argentine for a concession for a branch line from Santa Rosa to Luxardo and Obispo Trejo, Province of Cordoba. The same committee have reported favourably on the petition of the Central Argentine Railway to build a line from Luxardo in a north-westerly direction for 25 kilometres, then on to Obispo Trejo, passing through Santa Rosa, keeping at a distance of 25 kilometres from the Central Northern and Central Cordoba systems, and also a branch from Santa Rosa to Sacanta. The Minister of Public Works has approved the plans presented by A. F. Lodola and Company with respect to a line from Santiago del Estero to the provincial boundary, with a branch to Rosario de la Frontera.—The Uruguayan Government has authorised Mr. F. Piria to extend the Uguaya de Oeste to Pan de Azucar. The concession for this line was granted six years ago.

### LINKING UP OF THREE UNDERGROUND RAILWAYS.

Before the close of the present year, it is expected that the linking up at Charing Cross of three of the London underground Railways will have been completed. The improvements embrace a new loop line on the Hampstead tube, extending underneath the Embankment Gardens, and part of the Thames, to a single tunnel station under the Charing Cross station on the Metropolitan District, the abolition of the existing steep subway connecting the District Station with that on the Bakerloo, the substitution of a new level footway, and the provision of four escalators to link up the District and Bakerloo Embankment Stations with the new stopping place on the Hampstead line.

In addition to simplifying the working of the Hampstead Railway by doing away with the present dead-end at Charing Cross under the London, Chatham and Dover Company's forecourt in the Strand, the scheme will greatly facilitate the interchange of traffic on the three underground systems. The escalators will be a welcome convenience to passengers who are averse to climbing a long flight of stairs in their passage from one station to the other.

Trains on the Hampstead tube will continue to stop at Charing Cross, and they will then proceed round the loop over half a mile of new line to the single tunnel station under the District line. Two escalators will connect the new station with the District, and two others will convey passengers to and from the Bakerloo Station on the Embankment. Persons wishing to reach the District from the Bakerloo and Hampstead lines will appreciate the provision of a new subway, practically level the whole distance.

Passengers from Hampstead to Earl's Court, instead of having to alight at Charing Cross and walk down Villiers Street, will be conveyed by escalators, under cover all the way, to the District Station. Others alighting from the Bakerloo at the Embankment for stations on the Hampstead tube will reach the new station by a similar convenient method thus obviating the necessity of going on to Trafalgar Square and having to cross the Strand to Charing Cross.

The progress of the work has been slow, owing to the many engineering difficulties that had to be surmounted. Chief of these was the close proximity of other works, including the foundations of the South-Eastern and Chatham Companies, built over the Thames. The work has been done under compressed air, and the portion of the tunnel under the Hogarth has been driven with only 30 to 35 ft. of clay between the top and the river bed. A great deal of the work has been executed in a water-bearing strata, which has added to the difficulties. The tunnel is at the present time at the utmost only



# EXTENSION OF NEW YORK RAILWAY SYSTEM.

The New York Public Service Commission have just issued a well-illustrated book giving a comprehensive account of the great developments which are being made of the underground and elevated electric railways in and around New York City. The new project is known as the dual system of rapid transit, and the following is a summary showing the single track mileage of existing lines and of those to be constructed. (The underground railways are described as subways.)

EXISTING LINES OF THE INTERBOROUGH RAPID TRANSIT COMPANY.	Track Miles.
Existing subways .. .. .	73.00
Existing elevated lines .. .. .	118.00
Subway and elevated lines for construction jointly .. .. .	141.85
Elevated railroad extensions to be constructed by company .. .. .	10.44
Third-tracks on elevated tracks to be constructed by company .. .. .	9.30
<b>Total .. .. .</b>	<b>260.00</b>
FOR OPERATION BY THE NEW YORK MUNICIPAL RAILWAY CORPORATION.	Track Miles.
Existing elevated lines .. .. .	103.50
Subway and elevated lines for construction jointly .. .. .	110.41
Elevated extensions for construction by company .. .. .	35.29
Third-tracking and reconstruction by company .. .. .	9.30
<b>Total .. .. .</b>	<b>260.00</b>
<b>Grand total .. .. .</b>	<b>618.70</b>

The extended undertaking, it is claimed, will make the greatest city railway system in the world. The existing lines measure 296 miles of single track, and this, as shown by the above summary, will be raised to over 618 miles. The new lines will be combined with the existing ones, and will be worked in two divisions, one by the Interborough Rapid Transit Company, which operates the existing subway and the elevated railroad in Manhattan and the Bronx, and the other by the New York Municipal Railway Corporation, formed for the purpose by the Brooklyn Rapid Transit Company, which controls the existing elevated railroads in Brooklyn. The construction and equipment of the new system will cost about 337 million dollars (\$67,400,000), and it will be borne jointly by the city and the two transit corporations.

On March 19 last, the City of New York, by the Public Service Commission, entered into separate contracts with the Interborough Rapid Transit Company and the New York Municipal Railway Corporation for the construction, equipment and operation of the dual system. While the existing mileage will be about doubled, the present facilities will be more than trebled, as the third-track and extensions of existing elevated railways will materially enlarge their capacity. At present the Rapid Transit lines are carrying about 800 million passengers per annum. The dual system, if used to its full capacity, will be able to carry more than 3,000 millions in the same period of time.

Out of the total cost the City of New York will supply about 171 million dollars, all of which will be devoted to construction work on lines to be owned by the city. Towards the cost of such lines the Interborough Company will contribute 58 million dollars and the Municipal Railway Corporation about 14 million dollars. The cost of additional construction on the elevated railroads, as well as that of the new equipment for both subway and elevated lines, will be borne by the companies, although the equipment of the city-owned lines will be the property of the city. The total contributions of the companies will be about 105 million dollars for the Interborough Company and 61 million dollars for the Municipal Railway Corporation. In addition to the above the city has already invested 55 million dollars for the construction of the existing subway, and the Interborough Company has expended 48 million dollars in equipment for the same lines. The total city investment will accordingly be 226 million dollars.

Owing to the situation of New York and the peculiar conformation of its five boroughs, its rapid transit requirements are exceedingly difficult to satisfy. Travel on city transportation lines is all towards the southern half of Manhattan Island in the morning and all away from it in the evening. The book proceeds to give details as to the existing railways and to the specific extensions which are proposed. One important change is that the Brooklyn Company will be allowed

to enter Manhattan Island, where it will have a system of subways by which it can distribute its passengers throughout the southern part of the island. Thus the present congestion at the Manhattan terminus of the Brooklyn and Williamsburg bridges will be ended, and the passengers from Brooklyn will be able to reach their destinations in Lower Manhattan without change of cars or the payment of additional fares.

The contracts provide for a single fare of 5 cents on each system, with free transfers at intersecting points for a continuous ride in the same general direction. It will be possible for passengers to travel 20 miles for one fare and without change of cars. The contracts contemplate that the whole system will be in operation in the year 1917, but it is expected that parts of the system will be put into operation from time to time as each part is completed, so that long before the time



Surface of Lexington Avenue during Construction.



Section of Partially Completed Subway, as the tunnel appears above scene.

set for complete operation the community will realise in part the benefits of the new lines. Parts of the new system are already nearly completed, including the Stuyvesant tunnel under the East River to Long Island City. The additional third track to the existing elevated railroads will enable the companies to increase the capacity of the system.

In explaining the various advantages which will result from the new system, the Commission mentions that the three additional tunnels under the East River will enable the Brooklyn and Manhattan companies to increase their capacity by more than quadrupled.

The new subways will show great improvements over the









wages. Alluding to the conciliation boards, he expressed his belief in conciliation, but added that he could recognise that a large number of men were getting impatient because the work of the boards had not been sufficiently rapid. He did not know what might be the decision of the executive committee, but he could anticipate that they would make an appeal to the different conciliation boards for the purpose of giving notice of the termination of the present scheme. That did not mean that they should not negotiate for an improved scheme. He would never be content until the executive was the negotiator for its members. He anticipated this would be one of the first demands that would be put forward in any negotiations for the introduction of a new scheme. They must seek to obtain uniform conditions, and the companies would then be unable to defeat the legitimate demands. As soon as they got the question of hours settled, the question of wages must be taken up. It was said that the companies could not afford to grant the concessions. If the demands were taken separately that might be the case with some lines, but it could not be the case with the North Eastern. Still, companies which had not paid a dividend made the position difficult. It was not the fault of the workers, and they should not be made to suffer. When 488 millions profit was made it was sufficiently large to bear the concessions, and the proper course would be to pool the profits in the State, who must become the owners of the railways.

MR. J. H. THOMAS, M.P., 1, St. John's Street, Doncaster.

Speaking at Doncaster, Mr. J. H. Thomas, M.P., assistant secretary of the Union, said the real significance of the strike could never be measured in pounds, shillings, and pence. When the Prime Minister was met he said: "I am determined that the food supplies of this country must be kept open." That was an admission that the whole life of the community

There was no logical gulf between that admission and the railways becoming the property of the nation. There was talk about the abolition of the conciliation boards. What were they going to substitute for them? Was it suggested by anyone that they were going to get an eight hours' day by resolution at public meetings? It had got to be negotiated for between the men and the companies. (The Chairman: Not necessarily.) The difference was that the Chairman had not been in it, and he had. (Laughter.) Proceeding, the speaker said he wanted an eight hours' day. His reasons were that railwaymen were doing 40 per cent. more work than they did twenty years ago. At the same time, the companies ran many miles less than in 1900, which meant that they required fewer men. There were men today firing who ought to be driving, men cleaning who ought to be firing, and men walking about the streets who ought to have work. For improved conditions they must have some machinery, and who would dare to say there had been any machinery which had accomplished so much as the conciliation boards? He did not suggest that the machinery was perfect, but it was machinery capable of doing some good. They had no justification for asking for the abolition of the scheme. Were they aware of the number of applications made by shopmen to be included in the scheme? The first thing was to get the men in the union, and a united union. (The Chairman: We have got it. If they had got it, how was it that men were coming in at

sectional disputes at present, calculated to weaken them when they had to make a real move. Strikes must be the last and not the first resource.

organisation, and calling upon all non-unionists to join. It also "urged the establishment of an eight hour day and a minimum wage, which we as workers are justly entitled to, and, considering the general spirit of unrest so prevalent, we believe the railway conciliation scheme to be absolutely inadequate and one-sided in its application in dealing with the demands of railwaymen, owing to the farcical awards given by autocratic arbitrators who belong to the capitalist class.

We choose our own battleground and break down for ever tyrannical officialism."

The London men met in Hyde Park and passed a resolution when all railwaymen in the United Kingdom must be members of a trade union, and, having achieved that object,

## INQUIRIES INTO RAILWAYMEN'S HOURS OF LABOUR.

during the year ended July 27. In regard to goods engine-men at Stratford (Great Eastern Railway), a considerable improve-

Northern Railway), a return obtained from the company for a week in January and February, 1912, showed that there was ground for complaint; but it appeared that the conditions at the time in question were very exceptional, the weather having been bad and foggy, the traffic unusually heavy, and sickness prevalent. The Board obtained a further return for a week in June and July, 1912, which showed a great improvement, although the conditions were adversely affected during the week in question by the necessity for suddenly removing, owing to an outbreak of foot-and-mouth disease, the whole of the live-stock collected for the Royal Agricultural Show at Doncaster. The Board considered it unnecessary to take further action.

Another inquiry, into the hours of labour of the engine-men, which were twelve and a-half. The Board inquired into the case, and the company explained that their through express engine-men work only four days per week, and added that arrangements would be made whereby the hours of these men would be reduced.

## THE STATE AND THE RAILWAYS.

The *Pall Mall Gazette* asserts "that the preliminary steps in connection with one of the most important and far-reaching inquiries ever instituted in this country have been taken on

"During the past few years, in the House of Commons and elsewhere, appeals have been made to the Government to endeavour by Commission or Committee to arrive at a clearer definition of the relations between the State and the railways of the country, both as regards directors and employees, with a view of preventing, if possible, the recurrence of the strikes and lock-outs which have proved so disastrous to the trade, commerce and industry of the nation.

"Although no definite confirmation is obtainable, it is parties on the matter, and the recess may be occupied in preparing a scheme for submission to Parliament when it reassembles. In certain responsible quarters it is hinted that ing up of questions of supreme importance, questions directly towards the State."

Trade refused either to confirm or deny the announcement of the country, with a view of preventing, if possible, strikes and lock-outs.

Power Struggle on the Great Western  
principle.

## HARVEST TRAFFIC IN THE UNITED STATES.

The following table shows the number of cars on 21 railroads in the United States, from July 1 to July 15, 1913, was 70,288, compared with 70,740 two weeks previous to that date and a total of 70,455 for the week ending July 18, 1912. The total harvest traffic for July 15, 1913, was approximately 6.87, which is slightly above the total of 6.495 on July 18, 1912. These figures, according to railroad men, indicate practically a normal condition, with the outlook as bright for available freight cars as the Report can be expected from the American Railway Association and various commercial associations have been carrying on propagandas in order to guard against car shortage. The following table shows the total number of cars and locomotives ordered by American railroads from January 1 to July 15, 1913, and also for the same periods during the three preceding years:—

Year.	Cars.	Locomotives.
1913 (to July 15)	100,000	1,000
1912 (to July 18)	95,000	950
1911 (to July 15)	90,000	900
1910 (to July 15)	85,000	850
1909 (to July 15)	80,000	800
1908 (to July 15)	75,000	750
1907 (to July 15)	70,000	700
1906 (to July 15)	65,000	650
1905 (to July 15)	60,000	600
1904 (to July 15)	55,000	550
1903 (to July 15)	50,000	500
1902 (to July 15)	45,000	450
1901 (to July 15)	40,000	400
1900 (to July 15)	35,000	350
1899 (to July 15)	30,000	300
1898 (to July 15)	25,000	250
1897 (to July 15)	20,000	200
1896 (to July 15)	15,000	150
1895 (to July 15)	10,000	100
1894 (to July 15)	5,000	50
1893 (to July 15)	0	0

## THE INDUSTRIAL AGREEMENTS INQUIRY.

REPORT OF THE LONDON AND NORTH WESTERN RAILWAY COMPANY, LTD., UNDER THE INDUSTRIAL DISPUTES ACT.

Sir Gilbert H. Cloughton, chairman of the London and North Western Railway Company, is one of the members of the Industrial Council who signed the report of the inquiry carried out at the request of the Government into the following questions:—(1) What is the best method of securing the due fulfilment of industrial agreements? (2) How far, and in what manner, should a Government be entitled to interfere between employers and workmen, and if a Government should be enforced throughout a particular trade or district.

The Council summarise their report as appended:—

It will be seen from our Report that among the various suggestions that we have had under consideration with respect to the first part of our reference, *i.e.*, as to the best method of securing the due fulfilment of industrial agreements, are the following:

1. That the Government should be empowered to appoint persons to inquire into the fulfilment of industrial agreements, and to report to the Government thereon.

2. That the Government should be empowered to appoint persons in breach.

The whole organisation of collective bargaining, of which we have expressed our approval, is based upon the principle of consent. We have found that such collective agreements have been as a rule kept, and we are both either to interfere

with them, or to leave them alone. The Association of Employers and the Association of Workmen have both been found to be in breach of their agreements.

A Committee of Inquiry has been appointed to inquire into the fulfilment of industrial agreements, and to report to the Government thereon.

We have found that the Association of Employers and the Association of Workmen have both been found to be in breach of their agreements.

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As regards the second portion of our reference (as to how far, and in what manner, industrial agreements which are made between representative bodies of employers and of workmen should be enforced throughout a particular trade or district), we have come to the conclusion that, subject to an enquiry made by an authority appointed by the Board of Trade, an agreement entered into between Associations of employers and of workmen representing a substantial body of those in the trade or district should, on the application of the parties to the agreement, be made applicable to the whole of the trade or district concerned, provided that the agreement fulfils the requirements laid down in the Draft Scheme in paragraph 58 and contains conditions to secure:—

(a) That at least 14 days' notice shall be given by either party of an intended change affecting conditions as to wages or hours, and

(b) That there shall be no stoppage of work or alteration of the conditions of employment until the dispute has been investigated by some agreed tribunal, and a pronouncement made upon it.

Sir Gilbert Cloughton, Mr. J. H. C. Crockett, Mr. F. W. Gibbons, Sir C. Macara, Sir T. R. Ratcliffe Ellis, and Mr. J. W. White have signed the following memorandum:—We have signed the Report, but desire to add that in our opinion an enquiry into the effects of the Trade Disputes Act, 1906, and the provision of protection would be desirable. Both subjects are much misunderstood, and may be germane to the fulfilment of industrial agreements.

Mr. Alex. Siemens, who was unable to accept the conclusions drawn by the Council from the evidence, submits a memorandum embracing further recommendations. He also states that an inquiry into the effects of the Trade Disputes Act, 1906, and the provision of adequate and effective protection to men who wish to work would be desirable.

## NARROW TUNNELS.

In the early days of railways in this country the standard minimum fixed dimensions of our bridges and tunnels were designed to give a clearance sufficient to enable a carriage door to be swung outwards without fouling the structures. This gave sufficient room for a person to lean out of window to a considerable extent without danger, and was all very well as long as the curves were easy and the carriages were short, but these conditions are not universal at the present time. Carriages have been widened, especially those with corridors, and they have been lengthened to a still more considerable extent; moreover, sharp curves on railway lines have become much more frequent. All these causes combine to bring the end openings of carriages dangerously near the structures built under the old rules when on a concave curve; a similar effect obtaining in the case of the openings in the centre of a carriage on a convex curve. In a few cases it is possible that a line may have got shifted in the course of years and have been brought in this manner too near to a fixed structure. The ordinary gang men, however, can as a rule be trusted to see to this matter; although it is always a good plan to inspect the position of the carriage end openings from time to time. At the inspection, Lord and Lord, who unfortunately lost his life by striking his head against the side wall of a tunnel between Dalton-in-Furness and Ulverston, it was stated in evidence that the clearance between the railway carriage and the tunnel varied from 2 ft. 6 in. to 1 ft. 4 in. This difference was probably caused by the carriage end openings being too near the structures. The public object to bars outside windows and young men are notoriously venturesome, but nothing less than some such precaution will guard against similar accidents.

## RAILWAY MAP TO COVER SEVERAL ACRES.

Earl's Court will have an extremely attractive exhibition next year, which is being planned to encourage a steady flow of foreign visitors to this country. The committee includes Lord Alverstone, the Earl of Clanwilliam, Viscount Churchill (chairman of the Great Western Railway), Sir Harry H. Johnston, Lord Lurgan, Lord Lyveden, the Earl of Ronaldshay, M.P., Major-General Sir Alfred E. Turner, Lord Tweedmouth, and Viscount Crichton. Two meetings have been held to consider the best means of portraying the United Kingdom as an ideal holiday and health resort, not only for the foreigner, but for the British themselves. One of the







# RAILWAY STOCK AND SHARE LIST.

## HOME RAILWAY ORDINARY STOCKS.

Share	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915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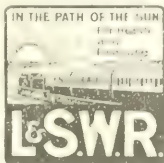
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**COMPANY NOTICES.**

**The British Bank of South America, Limited.**

THE Board of Directors hereby give notice that the annual general meeting of the company will be held at the Bank of England, London, on Thursday, the 26th September, 1913, at 2 o'clock, for the purpose of receiving the accounts and reports of the Directors and of electing Directors and auditors.

**TENDERS INVITED.**

**Victorian State Railways.**

THE Victorian State Railways, Melbourne, are invited to tender for the supply of 100,000 tons of iron and steel for the construction of the Melbourne and Geelong Railway. The tenders should be sent to the Victorian State Railways, Melbourne, by the 10th September, 1913.

**The Great Indian Peninsula Railway Company.**

THE Directors are prepared to receive tenders for the supply of 100,000 tons of iron and steel for the construction of the Great Indian Peninsula Railway. The tenders should be sent to the Great Indian Peninsula Railway Company, London, by the 10th September, 1913.

**The Great Indian Peninsula Railway Company.**

THE Directors are prepared to receive tenders for the supply of 100,000 tons of iron and steel for the construction of the Great Indian Peninsula Railway. The tenders should be sent to the Great Indian Peninsula Railway Company, London, by the 10th September, 1913.

**London—India Office.**

THE Secretary of State for India in Council is invited to tender for the supply of 100,000 tons of iron and steel for the construction of the London—India Office. The tenders should be sent to the Secretary of State for India in Council, London, by the 10th September, 1913.

**East Indian Railway Company.**

THE East Indian Railway Company is invited to tender for the supply of 100,000 tons of iron and steel for the construction of the East Indian Railway. The tenders should be sent to the East Indian Railway Company, London, by the 10th September, 1913.

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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, AUGUST 30, 1913.

No. 9.

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NOTES.

## RAILWAYS AND CAPITAL DEMANDS.

Most railways all over the world, where the Government property have been conveyed to the companies owning them under the conditions expressed or implied that the reasonable requirements of the public for the transport of passengers and goods shall be complied with, and there are few instances in which they are not also saddled by some definite restrictions on the rates they are entitled to charge for the accommodation provided. Now the additional requirements of the public arising out of increased population and expanding trade involve capital expenditure, and those responsible for the formation and management of railway companies when accepting such conditions have assumed that fresh capital could always be obtained on ordinary terms. If the validity of that assumption is at any time impaired, the railway companies are placed so that they can only comply with the conditions imposed on them with loss to their shareholders. The increasing scarcity and dearth of loanable capital has now reached such a point that in many parts of the world this state of things, if not actually brought about already, is very near to being realised. With the waste of wars and revolutions added to the augmentations of taxation in every State, loanable capital seems less and less likely to expand in proportion to the demands made upon it, so that railway shareholders may in many instances find themselves in the anomalous predicament of losing money as their business grows. Indeed, some of the Argentine lines are already in this position. The Buenos Ayres and Pacific Railway, after paying but 2 per cent. on its ordinary stock last year, the greater part of which has been subscribed within the last six or seven years, has found itself compelled to raise funds for the accommodation of its customers by the issue of debentures carrying five per cent.—indeed more, seeing that the issue price was less than par. In other words, the proprietors are in the unfortunate position of having to borrow money at over five per cent. in order to earn two per cent. upon it. In this particular case the position is, doubtless, temporary, having arisen out of the fact that the Board have not been able to lay out capital upon works in the same order as that in which they began to bear fruit. But the position is not peculiar to the Buenos Ayres Pacific or to the Argentine. In the United States of America, while the restrictions upon increase of rates are maintained, many companies must borrow to provide terminal facilities and other instruments for expediting traffic upon terms sufficiently onerous to point to a reduction rather than an increase in stockholders' dividends. In India the whole trading community has been grumbling for months—indeed for years—because the State railways and companies do not undertake improvements having the like effect. At home the capital account of our railways is very much overdrawn, and public issues to fund the overdrafts would have been very much larger and more frequent of late were it not for the high rates of interest that loanable capital commands. The boards of directors are postponing adjustments of capital accounts in hopes that these rates will soon decline, leaning meanwhile upon the financial good graces of the banking fraternity. Now, a railway

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New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

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SURREY.

Bankers take particular pains with the great railway companies, and usually establish a branch in the neighbourhood of their termini, in order the better to handle the cash, which in the last resort is needed by the banker to enable him to keep his doors open. This, however, does not prevent him from charging current rates of interest on the advances he makes, and when the Bank Rate, as now, remains at four-and-a-half per cent. all through the summer, it is doubtful whether the charge does not more than counterbalance any extra earning capacity the railways may have acquired by incurring such overdrafts.

### FULL USE OF ROLLING STOCK.

Taking the whole duration of a goods wagon's life, the proportion of it during which it is in motion is very small. It follows that any acceleration in the speed of goods trains, especially with the comparatively short hauls in this country, does not appreciably increase the earning power of the vehicle. The ideal speed for all traffic on a double track is, of course, a uniform one, and even where there are four tracks such uniformity has enormous advantages. What improvement this regular all-round speed effects is evident on some of the underground railways, as thereby a service of 40 trains an hour is possible; the same result could be obtained on the main lines, and on the London street traffic. We must, therefore, look to some other means for increasing the return on the capital outlay in rolling stock; this may be summarised as "quick turnover" and "careful maintenance." Strict attention to these points will minimise the constant cry for additional wagons, additions which are apt to clog the line unless siding and terminal facilities be enlarged accordingly. To arrive at the quickest turnover the time-allocation for demurrage should be shortened to its lowest limit; seeing the great advantage of such quick despatch it might be feasible to balance the line for exceeding the demurrage time by paying the terminal charges which, being unavoidable, press heavily on traders in general. These rewards for quick loading and unloading would encourage traders to assist in establishing devices for transporting goods in skips containing a road-wagon load, and in constructing

If coal wagons were loaded in this manner, the skips when these were available. This would diminish to a great extent the number of loaded coal wagons waiting instead of eating their heads off, as it were, might be earning money for their owners. These, of course, are only suggestions, but they are made in the hope that they would possibly be effected. The "careful maintenance," the for here, again, it should be borne in mind by all concerned and the application of the bonus system for absence of time lost in the shops might have a salutary effect on those owners who are too apt to follow the usual American practice of running stock to death and then scrapping it.

### THE RAILWAY RETURNS OF 1912.

A special interest attaches to the Board of Trade return regarding railways of the United Kingdom for the year 1912, an extended summary of which is published in this issue. The great disturbing factor in the railway year was the coal strike, which, it will be remembered, at the time produced very heavy decreases in the traffic receipts of a large proportion of British railways. The aggregate figures however which are now presented by the Board of Trade show that in spite of the coal strike the gross revenue of all the railways of the country taken together actually showed an increase over the figures for the preceding year. The increase of the receipts amounted to over one million pounds, and the total of over 118 million pounds represents the sum of £5,047 per mile of line open, as against £5,007 per mile in 1911. The receipts, in fact, are the highest on record and embrace about £300,000 increase in passenger traffic and £770,000 in goods traffic. Both the first and third class passenger receipts displayed large increases, but these were rather more than set off by the decrease of £825,000 of second class passengers. Season ticket holders and mails, parcels, etc., however, showed considerable increases. The falling off in second class receipts is, of course, due to the abolition of the intermediate class on certain lines, and to its partial abolition on others. When we come to the number of passengers and to the quantity of goods and minerals conveyed, decreases are shown under most of the headings. It is peculiar to observe that while third-class passengers decreased by more than 21 millions the receipts from this source were up by £600,000, which constitutes a record. Second class passengers were down by about 10½ million in numbers, and first-class passengers showed a small decrease. The number of passengers in all cases excludes the journeys made by season-ticket holders, and there is some reason to believe that the holders of such tickets on an average are making more journeys than they used to do. In any event, the receipts for season tickets are considerably up, except for second class. The decrease in third class passengers follows on an almost unbroken series of yearly increases. The Board of Trade attribute the decrease in number not only to the coal strike, but to the number and extension of motor omnibus services. The decreases were, however, confined to the first half of the year, and in the second half the number of passengers was rather greater than in the second half of 1911. It is accordingly reasonable to conclude that but for the coal strike there would have been some increase in the total number of passengers carried. The increases in passenger receipts are ascribed to small increases which have taken place in certain fares. In regard to mineral traffic, the money received went down by over half a million, but the receipts from general merchandise were up by £1,300,000, this being the highest recorded. On the whole, there was a decline in tonnage conveyed, as the increase in the tonnage of general merchandise was less than the decrease in the tonnage of minerals. Put briefly, the results may be shown thus:—Decrease in number of passengers, exclusive of season-ticket holders, 2.4 per cent.; increase in receipts from passenger traffic, 0.6 per cent.; decrease in tonnage of goods, 0.6 per cent.; increase in the receipts from goods, 1.2 per cent. The average receipts per train mile for goods traffic have been steadily rising for some years, while those from passenger traffic have in most recent years tended generally to decline. In regard to working expenses there was an increase over all of 3.3 per cent., while the gross receipts had only increased by 1.1 per cent., so that the ratio of expenses to receipts rose from 61.8 to 63.2 per cent. Generally it may be said that the results obtained are much better than might have been hoped for during and for some time after the dark days of the coal strike.



# MONEY AND STOCK MARKETS.

ties, foreign stocks, American bonds, foreign railways.

been increased and rates charged for accommodation were rather lighter than before. These movements have characterised the whole of August and the month ends as it began with a gradual but fairly steady upward trend. The 387 securities, the aggregate market values of which are computed monthly in the *Bankers' Magazine*, exhibit a rise of just 1 per cent. during August. The largest rises were seen in South African and copper mining shares, and iron and steel companies' shares and shipping stocks contributed the next largest addition of price. The declines were small; Bank shares, British, Foreign and Colonial, were responsible for the major part thereof. The rise recorded for British rails is but decimal one per cent., or a tenth of the mean, but here a certain allowance must be made for dividends deducted.

When the market re-opened on Monday last, attention was chiefly occupied with the carry-over, and few changes in quotations were recorded. Those few were good as far as Home rails were concerned, but not important. United States railways showed some sharp fluctuations over divergences of opinion as to the outcome of negotiations with Mexico, but here again the general trend was upward. A report that Bulgaria had abandoned her right to Adrianople assisted the rising tendency in foreign securities and international stocks. Canadian and Mexican railways improved. In British rails, Dover A was favoured on account of the fine weather, and a rise was recorded here both on this and the following day, when conditions generally remained much the same. On Wednesday again similar conditions prevailed, and a rise took place in quotations for new issues in the belief that the public would come back from their holidays with appetites for this fare strengthened and improved. However, the next day the appetite most in evidence was one for taking profits, and the result was a general, though not great, decline in quotations for Home rails.

On Friday the general rise of stock quotations was resumed, the movement being stimulated by reports that Mexico was responding more cordially to offers of assistance from the President of the United States. Monetary difficulties were understood to be the cause of the improved tone in the Mexican attitude, and this was regarded as a hopeful sign that the problems created by Balkan antagonisms and still unsolved might yield to similar treatment. Consols rose with other British Government stocks. Home rails recovered the losses of the previous day in many instances. Foreign bonds, with the exception of Spanish, improved. United States railways, together with Canadian, Mexican and Argentine railways, were all higher. San Paulo was almost alone in falling 1½. Considering the rate at which the traffic receipts of British railway companies are now improving, it is only reasonable to expect that prices quoted for the ordinary stocks will be higher before the end of the year. The obstruction now alleged is that offered by the likelihood of labour disturbances.

The movements of the week are set forth below:

Central London		Hull and London	
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Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

At present		Last week		Last Year	
Bank of England	.....	.....	.....	.....	.....
Notes in Circulation	£29,248,970	58.62 p.c.	.....	.....	.....
Bank Rate	4½ p.c.	4½ p.c.	4 p.c.	.....	.....
Open Market Discount	.....	.....	.....	.....	.....
Bankers' Clearing House	£255,204,000	£315,412,000	£235,330,000	.....	.....
Silver bars, per oz. (spot)	27½d.	.....	.....	.....	.....
Consols (account)	74½	74	.....	.....	.....
Paris Cheque exchange	25½ p.c.	.....	.....	.....	.....
New York exchange	.....	.....	.....	.....	.....
Rio de Janeiro exchange	16½d.	.....	.....	.....	.....
Valparaiso 90-day exch'g	9½d.	.....	.....	.....	.....
Cuttaca transfers	18. 4½d.	18. 4d.	18. 4d.	.....	.....
Hong Kong transfers	18. 11½	18. 11½	.....	.....	.....
Shanghai transfers	.....	.....	.....	.....	.....

The Bank return this week is again very satisfactory. Some £60,000 was received in gold from abroad, a good deal of it from South America, while only £480,000 was withdrawn for export, nearly all of which was required for the Near East. In addition £413,000 came in as the result of a contraction of the internal circulation of coin by this amount, and the active note circulation at the same time was reduced by the small sum of £65,000. As the necessary consequence of these changes the Reserve level of about a million and a third above that which obtained at the corresponding date of last year, when the Bank Rate was a half per cent. less than it is now. There has been a decline of £359,000 in Public Deposits, while Private Deposits show an advance of £1,202,000 to £44,417,000. Other Securities being £141,000 less. Rates for discounts became appreciably easier when the contents of the Bank Return became known. The ratio of Reserve to the liabilities of the Bank is nearly a point higher, at no less a figure than 50½ per cent. This unusual position is in part to be ascribed to the fact that Government Deposits are not so great as they have been in recent years. Twelve months ago the amount was over seven millions higher than now, and no doubt the Government must borrow on a larger scale between September and the early part of next year when the proceeds of taxation begin to come in more freely.

On the Stock Exchange the week under review has been shorter than usual because the Stock Exchange was closed on Saturday last. With so little business doing a holiday is complained of by no one, and on Saturday week the House will again be shut. The trend of price has been upwards in spite of the small volume of trading, but no



## BRITISH RAILWAYS IN 1912.

The Board of Trade returns for the year 1912, and working expenditure of the railway companies of the United Kingdom for the year 1912 were issued on August 22. The returns are prefaced by a general report and summary tables, of which we give the following abstract:—

## CAPITAL.

The total amount of authorised capital shown by the returns for 1912 was £1,410½ millions—an amount greater by £9½ millions than that shown by the returns for 1911. The following statement shows the amounts of capital (inclusive of nominal additions) returned as paid-up at the end of each of the years 1912 and 1911:—

	1912.	1911.
Ordinary Stock	493.5	0.1
Preference and Guaranteed Stock	8.1	

The total amount of railway capital returned as paid-up at the close of 1912 was thus £1,335 millions, of which about £198½ millions, or approximately 15 per cent., was due to nominal additions. The nominal additions formed approximately 19 per cent. of the "ordinary" stock, 12½ per cent. of the "preference and guaranteed" stocks, and 12½ per cent. of the "loans and debenture stock." The increase, during the year 1912, in the total amount of paid-up capital amounted to about £11 millions, as compared with £5½ millions in 1911, and £4 millions in 1910. The total amount of ordinary capital decreased in 1912 by about £300,000; "preferential and guaranteed" increased by about £8½ millions, and "loans and debenture stock" increased by about £3 millions. The decrease in ordinary capital was due to the vesting in the Midland Company of the undertaking of the London, Tilbury and Southend Company, and the greater part of the increase in preferential capital took place in connection with the same transaction, £2,111,840 of London, Tilbury and Southend ordinary stock having been extinguished and replaced by £5 millions of Midland preference stock, while nearly £3 millions of the latter stock was substituted for about £1¼ millions of London, Tilbury and Southend preference stock. Of the total paid-up capital at the end of 1912, ordinary stock formed 36.9 per cent., preferential and guaranteed 36.1 per cent., and loans and debenture stock 27.0 per cent.

The average rate of dividend on the ordinary capital was 3.45 per cent. in 1912, as compared with 3.62 per cent. in 1911. The average rate of dividend on the preferential capital fell from 3.56 per cent. in 1911 to 3.52 per cent. in 1912, and the rates on the other classes of capital remained substantially unchanged. The rates are naturally lower than they would have been had there been no nominal additions to the capital of the companies. The average rate of dividend or interest computed on the total capital, as it would have stood if no nominal additions had been made thereto, was 4.13 per cent.

## TRAFFIC.

The gross receipts from passenger traffic in 1912 were £54.26 millions, and from goods £64.05 millions, a total of £118.31 millions. In 1911 the corresponding figures were £53.95 millions, £63.29 millions, and £117.24 millions. The figures do not include receipts from miscellaneous sources. The total of £118,310,000 represents a sum of £5,047 per mile of line open at the end of the year for traffic, as against £5,007 per mile in 1911. In spite of a decline in the tonnage of merchandise and minerals and in the number of passengers conveyed, the gross traffic receipts for the year 1912 are the highest recorded, and show, on comparison with those for 1911, increases of about £30,000 from passenger traffic, and £770,000 from goods traffic.

## REVENUE FROM PASSENGER TRAFFIC.

The following statement shows the gross receipts from each class of passenger traffic in the last two years:—

First-class	11,250,000
Second-class	11,250,000
Season ticket holders	11,250,000
Miscellaneous	11,250,000

and the receipts from first-class passengers were greater than those of any other year since 1883. The increases under these two heads in 1912 do not counterbalance the great decrease in the receipts from second-class passengers, due to the abolition of the intermediate class on certain lines, and to its partial abolition on other lines where it has been retained for local traffic only. Some part of the increases is attributable to the issue of "excursion," and other tickets issued at cheap rates.

The following is a comparison of the numbers of passengers of each class (exclusive of season-ticket holders):—

	No.	Amount
First class	11,250,000	11,250,000
Second class	11,250,000	11,250,000
Third class	11,250,000	11,250,000

The decreases were, respectively, 152,000 first-class; 10,612,000 second-class; and 21,216,000 third-class, the aggregate decrease being 31,980,000.

The further abolition of the second-class, to which reference has been made above, resulted in a great transfer of passengers from the second to the third-class, and the large decrease shown in the number of third-class passengers, following on an almost unbroken series of yearly increases, is all the more striking when this circumstance is taken into account.

In 1912 the working of the railways of the United Kingdom was disorganised for some weeks by the great coal strike. During the year, too, the motor omnibus services were much improved and extended, especially in the Metropolis and the adjacent districts. In some degree these services have created their own traffic by providing facilities for rapid locomotion in places where no such facilities previously existed, but their effect in reducing short-distance railway travelling must nevertheless have been considerable. How far the absence of the usual increase and the substitution of an absolute decrease in the number of passengers carried on the railways are attributable to the one or to the other of these influences cannot be definitely determined. An examination of the half-yearly accounts of the principal companies shows, however, that the number of passengers carried by these companies collectively in the second half-year of 1912 was rather greater than the number carried in the second half-year of 1911. Thus the decrease in 1912 occurred wholly in the first half-year, and it seems reasonable to conclude that but for the coal strike there would have been some increase in 1912 in the total number of passengers carried.

## PASSENGER INCREASES.

In the following table a comparison is made between the annual rate of increase in the numbers of third-class railway passengers and tramway passengers respectively:—

Year	Rate of Increase	Tramway	Railway
1904	1.7	1.7	1.7
1905	1.7	1.7	1.7
1906	1.7	1.7	1.7
1907	1.7	1.7	1.7
1908	1.7	1.7	1.7
1909	1.7	1.7	1.7
1910	1.7	1.7	1.7
1911	1.7	1.7	1.7
1912	1.7	1.7	1.7

The rate of increase in 1912 amongst tramway passengers cannot be shown, the returns for that year not having yet been completed.

## SEASON TICKETS SHOW A SMALL INCREASE.

Regarding season tickets, the revenue from first-class was £2,735,000, an increase of £271,000. From season tickets the total income was £5,084,000, an increase of £191,000. The steady increase observable in past years in the receipts from first and from third-class season tickets continued in 1912, the receipts from first-class season tickets having increased by 5 per cent., and those from the third-class season tickets by 11 per cent. It would appear, however, that the increase in

tickets, especially in the case of the first-class. The receipts from second-class season tickets fell off by about 20,000,000.



owing to the abolition of the second-class on certain lines, to which reference has already been made.

The number of season tickets in the equivalent of annual tickets was 785,135 (against 779,173), made up as follows:—First-class, 136,010; second-class, 97,435; third-class, 551,000. The total number of first-class season tickets was almost exactly the same in 1912 as in 1911, and it would appear that in 1912 the great majority of holders of second-class season tickets who, owing to the abolition of the intermediate class, found themselves obliged to choose between the first and third-class, elected to travel third-class. The average receipt per season ticket reduced to the basis of the equivalent number of annual tickets was:—First-class, £12 5s.; second, £6 18s.; third-class, £4 10s.; as compared with £11 13s., £6 10s. and £4 15s. respectively in 1911.

MR. ASH. B. GEORGE, CHIEF CLERK, RAILWAY DEPARTMENT.

#### COAL STRIKE.

The following statement shows the receipts from each branch of goods traffic:—

	1911.	1912.	Inc. or Dec.
Minerals .. .. .	32,075,000	36,100,000	4,025,000
General Merchandise ..	32,075,000	36,100,000	4,025,000
Livestock .. .. .	1,000,000	1,000,000	—
Other .. .. .	1,000,000	1,000,000	—

In spite of the coal strike, the receipts in 1912 from general merchandise were the highest recorded, and the increased receipts from this branch of the traffic more than compensated for the decline in receipts from minerals. Even the latter were greater than in any previous year except 1907 and 1911, and fell short of the record figures for 1911 by less than 2 per cent. Receipts from the carriage of live stock show a small decrease. The tonnage was: In 1912, minerals conveyed, 401.6 million tons; in 1911, 409.8 million tons; a decrease of 8.2 million tons. In 1912: General merchandise conveyed, 118.7 million tons; in 1911, 113.8 million tons; an increase of 4.9 million tons. The total was 520.3 million tons, as against 523.6 million tons, a decrease of 3.3 million tons. On the whole there was a decline in tonnage conveyed, the increase in the tonnage of general merchandise being less than the decrease in the tonnage of minerals. The proportion per cent. of the increase or decrease in the tonnage carried was approximately the same, in each case, as that in the receipts.

#### TRAFFIC MILES.

No figures with regard to the average distances over which passenger or goods traffic have been conveyed are compiled annually by the majority of the railway companies. The following figures, however, as to the number of miles travelled by passenger and goods trains respectively during the years 1911: Passenger trains, 258.8 million miles, as against 270.3 million miles in 1911, a decrease of 11.5 million miles. Goods trains, 151.9 million miles, as against 156.5 million miles, a decrease of 4.6 million miles. The total (including mixed trains) was 412.5 million miles, as against 428.6 million miles, a decrease of 16.1 million miles. The number of miles travelled by passenger trains, which in normal circumstances tends to increase annually was less than in any year since 1906; and the number travelled by goods trains, which fluctuated between 153.8 millions and 160.7 millions during the ten years immediately preceding, fell in 1912 to 151.9 millions, the decreases being due chiefly to the coal strike.

The following statement gives a summary of the receipts from the different branches of goods traffic:

	1911.	1912.	Inc. or Dec.
Minerals .. .. .	32,075,000	36,100,000	4,025,000
General Merchandise ..	32,075,000	36,100,000	4,025,000
Livestock .. .. .	1,000,000	1,000,000	—
Other .. .. .	1,000,000	1,000,000	—

There was thus an increase in receipts and a decrease in tonnage, the increase in receipts being due to the increase in the tonnage of general merchandise, and the decrease in tonnage being due to the decrease in the tonnage of minerals.

The following statement gives a summary of the receipts from the different branches of passenger traffic:

	1911.	1912.	Inc. or Dec.
First-class .. .. .	136,010	136,010	—
Second-class .. .. .	97,435	97,435	—
Third-class .. .. .	551,000	551,000	—

The average receipts per train mile from goods traffic have been steadily rising for some years, whilst those from passenger traffic have in most recent years tended generally to decline.

attributable in great part to the economies in working which the coal strike rendered necessary.

#### WORKING EXPENDITURE.

The following table shows the gross receipts, the working expenses, and the net receipts in each of the last two years:

	1911.	1912.	Inc. or Dec.
Gross Receipts .. .. .	127,200,000	130,000,000	2,800,000
Working Expenses .. ..	81,220,000	78,000,000	3,220,000
Net Receipts .. .. .	45,980,000	52,000,000	6,020,000

The increase in gross receipts was largely exceeded by that in working expenditure, and net receipts fell by 2.6 per cent. The following is a comparison for 1912 and 1911 of the gross amounts of the expenses of the companies under the four principal heads:

	1911.	1912.	Inc. or Dec.
Maintenance of way, etc., ..	45,980,000	45,980,000	—
Locomotive power .. .. .	1,780,000	1,780,000	—
Repair of engines and waggons ..	1,780,000	1,780,000	—
Repair of rolling stock .. .. .	1,780,000	1,780,000	—

The expenditure on maintenance of way, etc., decreased by £50,000, as compared with an increase of £290,000 in 1911. That on locomotive power increased by £780,000, as compared with an increase of £400,000 in 1911. The expenditure on repair and renewal of carriages and waggons increased by £180,000 and that on traffic expenses by £950,000. Over all there was an increase of about £1,800,000, against one of about £1,750,000 in 1911.

The amounts of rates and taxes paid by the railway companies in each year since 1907 have been as follow:—

	1907.	1908.	1909.	1910.	1911.	1912.
Rates and Taxes .. .. .	4,884,000	4,884,000	4,884,000	4,884,000	4,884,000	4,884,000

An examination has been made of the accounts rendered to their shareholders by the principal companies, in order to estimate the effect of variations in the cost of materials and in the extent of the wages bill on the increase in expenditure. The information compiled from these accounts is given in an appendix, and as the total working expenditure of the fifteen companies for which particulars are there given amounts to approximately 84 per cent. of the total for all the companies during the year, it may be assumed that the expenditure of these fifteen principal companies is fairly representative of the whole. The following figures show the cost of coal and coke, and of materials used in the repair of engines, for these fifteen companies since 1907:—

	1907.	1908.	1909.	1910.	1911.	1912.
Coal and coke .. .. .	6,539,000	6,539,000	6,539,000	6,539,000	6,539,000	6,539,000
Materials .. .. .	5,014,000	5,014,000	5,014,000	5,014,000	5,014,000	5,014,000

During 1902-1911 the quantity of coal consumed for locomotive purposes increased by 10.3 per cent., and the total train mileage by 7.5 per cent., passenger train mileage having increased by 20.6 per cent., while goods train mileage decreased by 0.6 per cent. The increase in coal consumption per train mile was no doubt attributable to an increase on the whole in the speed of passenger trains and to heavier loading of goods trains. In 1912 the total train mileage decreased by 3.8 per cent. The quantity of coal consumed for locomotive purposes in the repair of engines, for these fifteen companies, was ascertained.

The following figures show the cost of coal and coke, and of materials used in the repair of engines, for these fifteen companies since 1907:—

	1907.	1908.	1909.	1910.	1911.	1912.
Coal and coke .. .. .	6,539,000	6,539,000	6,539,000	6,539,000	6,539,000	6,539,000
Materials .. .. .	5,014,000	5,014,000	5,014,000	5,014,000	5,014,000	5,014,000

panies on account of wages showed the same tendency to increase as those of the larger, the following comparative statement may be given:

To employees .. .. .	6.5	6.5
Personal injuries to passengers .. .. .	0.25	0.25
Miscellaneous .. .. .	0.10	0.10
Harbours, and Land .. .. .		

The expenditure per train-mile and per mile of railway under each head except steamboats, etc., is shown in the statement on the next page.

Rates of Dividend or Interest.	Ordinary.		Preferential.		Guaranteed.		Loans and Debenture Stock.	
	Amount of Capital.	Per cent. of Total.	Amount of Capital.	Per cent. of Total.	Amount of Capital.	Per cent. of Total.	Amount of Capital.	Per cent. of Total.
Nil .. .. .	£. 67,069,593	13.6	£. 14,407,386	4.0	£. —	—	£. 558,782	0.2
Not above 1 per cent. .. .. .	16,332,552	3.3	1,288,734	0.4	—	—	676,789	0.2
Above 1 and not above 2 per cent. .. .. .	35,363,561	7.2	3,700,230	1.0	101,180	0.1	4,666	—
.. 2 .. 3 .. .. .	103,633,256	21.0	111,312,542	31.3	23,318,760	18.6	192,537,351	53.4
.. 3 .. 4 .. .. .	96,002,612	19.5	164,129,227	46.1	62,399,727	49.8	121,602,634	33.7
.. 4 .. 5 .. .. .	37,874,024	7.7	59,815,072	16.7	36,870,130	29.4	43,770,598	12.2
.. 5 .. 6 .. .. .	90,368,665	18.3	1,663,814	0.5	2,810,200	2.1	1,219,691	0.3
.. 6 .. 7 .. .. .	44,557,715	9.0	—	—	—	—	—	—
.. 7 .. 8 .. .. .	1,120,600	0.2	—	—	—	—	—	—
.. 8 .. 9 .. .. .	853,407	0.2	—	—	—	—	—	—
Total .. .. .	493,175,985	100.0	356,117,005	100.0	125,299,997	100.0	380,370,531	100.0

Rates of Dividend.	Amount.—Million £.					Percentage of Total.				
	1902	1911	1910	1909	1908	1912	1911	1910	1909	1908
Nil .. .. .	6.1	6.4	6.3	7.1	7.6	13.6	13.5	13.7	14.6	15.4
Not above 1 per cent. .. .. .	16.3	12.9	29.4	27.4	35.2	7.3	2.6	6.0	5.6	7.2
Above 1 and not above 2 per cent. .. .. .	35.4	39.1	18.1	35.2	28.7	7.2	7.9	3.7	7.1	4.8
.. 2 .. 3 .. .. .	103.6	87.8	87.7	148.1	144.0	21.0	17.8	17.8	30.0	29.3
.. 3 .. 4 .. .. .	96.0	139.6	169.3	67.9	56.6	19.6	21.6	22.3	11.8	11.5
.. 4 .. 5 .. .. .	37.9	35.2	38.2	13.5	22.1	7.7	7.1	7.7	2.7	4.5
.. 5 .. 6 .. .. .	90.4	67.0	55.5	135.9	131.4	18.3	13.6	17.4	27.6	26.7
.. 6 .. 7 .. .. .	44.6	77.1	55.0	1.7	1.7	9.0	15.6	11.2	6.3	0.4
.. 7 .. 8 .. .. .	1.1	0.7	0.4	0.5	1.0	0.2	0.1	0.1	0.1	0.2
.. 8 .. 9 .. .. .	0.8	0.7	0.5	0.2	0.3	0.2	0.2	0.0	0.1	0.0
Above 9 per cent. .. .. .	—	—	0.7	0.5	—	—	—	0.1	0.1	—
Total .. .. .	432.2	436.5	492.1	430.1	491.6	100.0	100.0	100.0	100.0	100.0

the total gross receipts including about 210 millions received from steamboats, canals, hotels, and other miscellaneous sources, and the total working expenditure to £81,224,000. The gross receipts therefore amounted to £41,320,000, and the average rates of dividend paid on the ordinary and preferential capital were 13.6 per cent. and 4.0 per cent. respectively. The following statement compares the average proportion of

Passenger traffic .. .. .	Freight .. .. .
Not earnings .. .. .	

DISOBEDIENCE THE MAIN CAUSE OF AN ACCIDENT.

The two statements on page 203 show the amounts of each description of capital classed according to the rates of dividend or interest paid in 1912, and the amounts of ordinary capital grouped according to dividends paid in each of the last five years.

A table relating to track mileage and length of sidings gives the total length of the running track of the railways of the United Kingdom at the end of 1912 as 40,034 miles, and the total length of sidings 14,875 miles. At the end of 1911 the length of running track was 39,016 miles and that of sidings was 14,660 miles.

At the end of 1912 the length of line (in equivalent of single track) worked solely by electricity was 210 $\frac{1}{2}$  miles, and 281 miles were being worked partly by electricity. The corresponding lengths of line at the end of 1911 were 206 $\frac{3}{4}$  and 258 miles respectively. The increase in the length worked partly by electricity is again due chiefly to the extension of electrical working on the London, Brighton and South Coast Railway. The total quantity of electrical energy used in 1912 was 252,925,833 Board of Trade units as compared with

A summary of the returns compared with those of last year is given herewith. The summary shows that in 1912, as compared with 1911, there were increases of £1,353,000 in gross receipts and £2,009,000 in working expenditure, and a decrease of £1,253,000 in net receipts. The total paid-up capital increased by about £11 millions, and the proportion of net earnings to total capital fell from 3.67 per cent. to 3.55 per cent.

[illegible]

Major J. W. Pringle has reported to the Board of Trade concerning his enquiry into the cause of the collision between an assisting engine and the rear of a passenger train, which occurred on June 28, at Bridge of Allan Station, on the Caledonian Railway. The 11.4 a.m. special passenger train from Stirling to Crieff and Perth was checked by danger signals approaching the station, and the assisting engine at the rear, which was running uncoupled to the train, became separated and collided with the train as it came to rest. Seventeen passengers complained of the effects of shock and injury, the latter not of a serious nature. In the course of his conclusion, Major Pringle observes that driver Dawson's fireman reported to the former that a slip coupling obtained from the engine shed could not be used as the tongue was broken. Dawson thereupon decided to assist the train with his engine uncoupled. In addition to the two enginemen, shunter Jeffrey appears alone to have been aware that the pilot was uncoupled to the train when it started at 11.12 a.m. It will be seen, by reference to Appendix I, that the regulation prescribes that 'in the case of a passenger train, the assisting engine must be coupled to the last vehicle by a slip coupling.' Driver Dawson acknowledged that he was aware of this instruction, and disobeyed it. This disobedience of orders was the main cause of the accident, and Dawson frankly accepts responsibility. Neither of the two guards, McIntosh and Amos, was aware that the assisting engine was uncoupled when the train left Stirling. But it was the duty of Amos, as rear guard, to see that the assisting engine was coupled to the last vehicle before he gave the signal to start. Amos admits that he neglected this duty, and his failure in this respect brings upon him a share of responsibility for the collision. If driver Donovan had not allowed the train to come to rest in Bridge of Allan station, it is improbable that any collision would have occurred. But since he also was unaware that Dawson's engine was uncoupled, I see no good reason for finding fault with his conduct.

"The Board of Trade have always maintained that the practice of assisting a passenger train at the rear is one which should be avoided whenever possible. Past history shows that minor accidents result with this method of working, even when the pilot engine is properly coupled, from misunderstanding between engine-men, from unforeseen stoppages, and from inexperience. The last may, perhaps, have been a factor in this case, as neither of the two drivers concerned had more than about five weeks' experience as a qualified driver. In the event of a serious collision with another train, or a derailment, the presence of an engine in rear of a passenger train certainly adds to the risk of danger, more especially when engine slip couplings are used, for these couplings do not permit of the continuous brake being coupled between the pilot engine and the last vehicle of the train. Some railway companies do not approve this method of working. This shows, I think, that the advantage gained in saving of time by slipping the assisting engine is not, in their opinion, commensurable with the additional risks incurred by the practice.

C. Speaking at Aboyne on August 23rd to the Deeside District Committee, Lord Shaw stated that it with the approval of the landed proprietors in the district the Great North of Scotland Railway (Proprietors) could see their way to give the length of five miles for their railway scheme, he was telling no tales out of school when he said, he almost knew for certain—that there would be opened up a magnificent line of transport communication to the East with the West of Scotland, connecting Aberdeen with Kilmorie, with outflow in and with Inverness. He appealed for Government aid could be taken on national grounds, and their rates could be saved.

The members of the Liberal-Peakland attended the ceremony at noon in the first of the West Australian end of the Government House. The headmaster of the school, Mr. J. S. A. Jones, was present as the West Australian Government member. The Federal Secretary to the Prime Minister, Mr. G. H. D. Jones, was also present. The ceremony was held in the few weeks rather cost



## PRENTICE "WIRELESS" ELECTRIC SYSTEM OF TRAIN CONTROL.

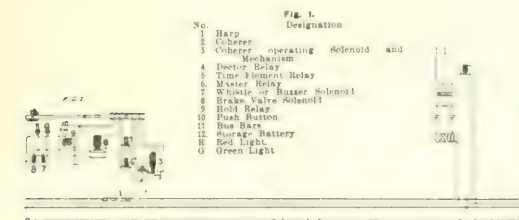
DEMONSTRATION INSTALLATION ON THE LONDON AND SOUTH WESTERN RAILWAY.

Apart from the desirability of its application to the London traffic which is expected to follow from the approaching electrification of the Thames Valley lines, the London and South Western Railway have for some time been convinced of the wisdom of introducing signals directly to the notice of drivers in the cabs of the locomotives. Their investigations led them three months ago to afford facilities for an installation of the latest invention in automatic train control on a mile and a quarter of line on the London side of Hampton Court Station. This is the Prentice system, and the chief factor in its working is the utilisation of wireless communication in the production of the entirely automatic effects.

The installation is similar to the system already tested on the Canadian Pacific Railway, and its introduction on the Hampton Court line has proved so successful that about a month ago Mr. Herbert A. Walker, the General Manager of the London and South Western Railway, invited the chief officers of other railway companies to attend a demonstration of its working. These experts, we learn, were as favourably impressed by what they witnessed as the London and South Western officials are themselves. On Tuesday last, by invitation of Mr. G. A. Phillips, of 4, Bishopsgate, E.C., the South Western management afforded the representatives of the technical Press an opportunity of seeing the system in

operation. The party were accompanied in a special train from Waterloo by Mr. Phillips, Mr. J. W. Jacob Hood, chief resident engineer, L. & S. W. R.; Mr. A. H. Johnson, telegraph and signal superintendent, L. & S. W. R.; and Mr. Buckmaster, chief clerk to Mr. Walker, the general manager; together with Mr. Drayton, chief railway commissioner to the Canadian Government. Mr. S. Sterry, the engineer of the installation, was also in attendance.

Two demonstrations were given. On each occasion the train and a separate engine were facing each other on the same line, the visitors occupying the cab of the locomotive drawing the train. The control of the latter engine was perfect, the brake being applied by the wireless waves and the engine brought to a standstill entirely independent of the driver, and without any manipulation of the regulator. A notable feature is the very small space taken up by the apparatus in the cab of the engine. On the left wall is a small cabinet, while above the driver's head are two small bull's eyes, showing red and green. By the side of the latter there is a button, by the pressing of which the driver is enabled to release the brakes after the automatic application of the same, and to proceed if necessary up to the signal. There is also a "buzzer" to attract the driver's attention. Under the engine the apparatus is just as inconspicuous, the feature here being the "harp."



The diagram of connections sets forth the main features of the system, Fig. 1 covering the apparatus on the engine, while Fig. 2 includes the co-operating arrangement on the track. The latter may receive first attention.

The track circuit is supplied from any suitable source of supply (9)—in this case 110 volt 60 cycle alternating current—through the transformer (6). The secondary is connected to the running rails, which are divided into the signalling sections as usual by insulated joints at 7. The track circuit of one section passes through the relay (5) of the section behind, so that the presence of a train or vehicle causes short-circuiting,

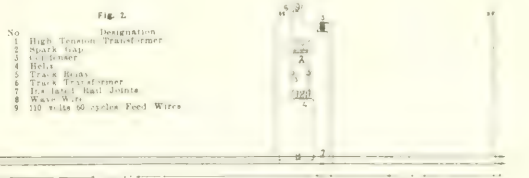


Diagram of Prentice System of Train Control on L. and S.W. Railway

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The aforementioned mechanism is clearly shown in Fig. 1 of the diagram given on this page, together with the wave wire laid in the centre of the ordinary rails and encased in a slight wooden covering. This wave wire is the conductor for the high-frequency current transmitted from the small box at the side of the line containing the transformer, these items being shown in Fig. 2. Most important of all is the fact that a failure of the appliance would result in the driver receiving an audible warning concurrently with an application of the brake. Appended is a full description of the system, which comprises:—

(a) An ordinary track circuit arrangement whereby the presence of a train or vehicle in a section short-circuits a relay;

thereby releasing the relay (5) for the section in which the "danger" intimation is to be given.

The high frequency plant, the primary of which is controlled by the relay (5), includes the transformer (1), spark gap (2), condenser (3), and helix (4), and is of any suitable character as long as it supplies the required high frequency current to the "wave wire" (8).

It will, therefore, be seen that the "wave wire" (8) continues to receive high frequency current unless the de-energising of the governing track circuit relay by short-circuiting causes its cessation.

On the engine the "harp" (1) (Fig. 1.) transmits radiant energy received from the wave wire to the coherer (2). This is continuously rocked—about eighty times per minute—by means of solenoid (3) and co-operating latch device. Relay (4) operates in synchronism with the coherer (2), being closed as the waves from the "harp" break down the resistance of the coherer and re-opened as the resistance is re-established. Its closing completes the circuit of relay (5), but as the latter is of a slowly de-energising "time" design it holds over the pulsating action of relay (4), causing continuous action of the "master" relay (6) as long as the influence of the high frequency waves from the wave wire are felt.

The "master" relay (6) controls solenoids (7) & (8), respectively used for operating whistle and brake valves, and also the display of red or green light, the latter being continuously presented while the high frequency waves are being received, but immediately the influence is lost the green changes to red, the brakes are applied, and a whistle or buzzer is caused to sound. The holding relay (6) for the brakes is operated with a push button (10), whereby the driver can release the brakes to control the running of the train, it being understood that the remainder of the section; but the red light continues to be displayed, and the whistle or buzzer is so timed that the driver cannot possibly ignore the warning it has received.

If the section ahead becomes clear, whether the train is standing or is still moving, the co-operating track circuit

## LOCOMOTIVES FOR THE GRAND TRUNK RAILWAY.

the Grand Trunk Railway Company have been so pleased

with the work done by the locomotives of the 2-8-2 class (Mikado) recently built by the American Locomotive Company, that they have placed an order with the same builders for 50 more of the same design. The success of the locomotives once more shows the economy in working expenses from the introduction of more powerful and more economical engines. The new machines are shown in the accompanying illustrations, for which we are indebted to the *Railway Review*, of Chicago.

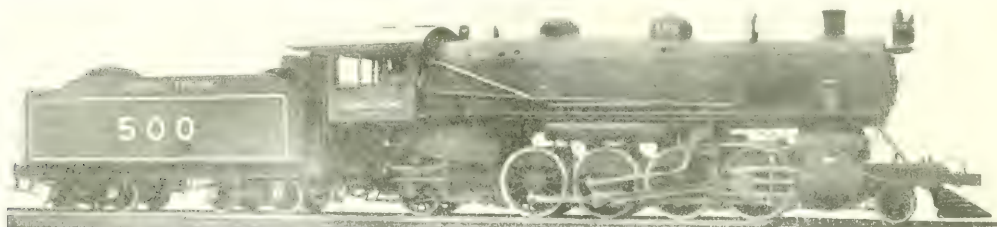
The freight traffic on the Grand Trunk Railway has formerly

been handled by Richmond compound consolidation type locomotives. The consolidation engines have a total weight, engine and tender, of 349,800 lbs., and a tractive power of 34,000 lbs. The Mikados have a total weight, engine and tender, of 455,100 lbs., and a tractive power of 51,700 lbs. With an increase in weight of only 30 per cent., an increase in tractive power of 52 per cent. is obtained. This is another example of where an increase in power far greater than the increase in weight is secured by the application of the latest knowledge and experience in designing. This is very important, as more power per pound of locomotive weight means more revenue from the same motive power investment.

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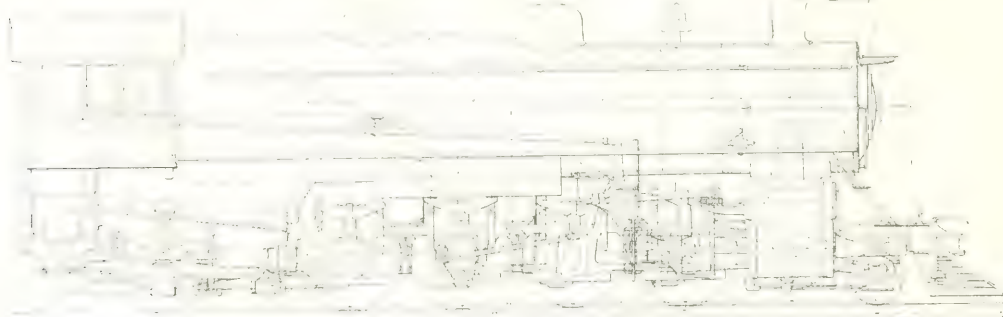


Mikado Type Locomotive for the Grand Trunk Railway

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Consolidation Mikado Locomotive, Grand Trunk Railway

against the non-observance of signals, continuing, in fact, the development of the track circuit, now so strongly

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National Locomotive Co., Chicago, Ill.

Canadian Pacific Railway, Montreal, P. Q.

Grand Trunk Railway, Montreal, P. Q.

Locomotive	Weight	Tractive Power	Speed
Consolidation	349,800 lbs.	34,000 lbs.	12 m.p.h.
Mikado	455,100 lbs.	51,700 lbs.	15 m.p.h.

The design in general follows the standard of the builders. The boiler, which is of the extended wagon top type, is 74in. in diameter outside at the front end, and 83in. in diameter outside at the largest course. The barrel is fitted with 240 two-inch tubes 20ft. long, and a 32-unit Schmidt type top header superheater. The fire-box is 108in. long and 75in. wide, and includes a firebrick arch, a pneumatic firedoor and a power-operated grate shaker. Great economy in operation is anticipated.

An interesting feature is the arrangement of the throttle lever support. It combines the lever fulcrum and quadrant support in an integral casting. This means a saving in the number of parts and also a reduction in the number of holes in the back head. It is also universal, as the support fits around the stuffing box as a sleeve, and can be turned to any desired angle to bring the lever in a convenient position. It is also of great advantage as a means of passing obstacles on the back head. Other interesting features which have been included in this design are outside steam pipes, screw reverse gear, self-centering valve stem guides, the new guide for the extended piston-rod, long main driving box, and the improved outside bearing radial trailing truck.

The essential features of these locomotives, and of the consolidations by which they are replaced, are indicated in the accompanying table:—

Type	2-8-2	2-8-0
Steam pressure	180 lbs.	180 lbs.
Working pressure	175 lbs.	210 lbs.
Grate area	50.5 sq. ft.	50.0 sq. ft.
Heat surface firebox	215 sq. ft.	168 sq. ft.
Heat surface tubes	3,308 sq. ft.	2,757 sq. ft.
Water capacity	9,000 gals.	7,000 gals.
Capacity, water	9,000 gals.	7,000 gals.
Capacity, fuel	283,000 lbs.	200,400 lbs.
Total engine and tender	455,100 lbs.	349,800 lbs.
Wheel base, driving	16ft. 0ins.	17ft. 0ins.
Total engine and tender	35ft. 0ins.	25ft. 0ins.
Total engine and tender	67ft. 4ins.	57ft. 3ins.
Tender, wheels, diameter	34ins.	34ins.
Capacity, water	9,000 gals.	7,000 gals.

#### Great Northern Railway Company and the School of Forestry.

The Great Northern Railway Company and the School of Forestry, at the University of Minnesota, have been conducting an experiment in the comparative value of different woods for sleepers, by laying any special woods in the road as an experiment, which could be removed at any time, and replaced by other woods, thus acquiring valuable information on a number of points.

## MEETINGS AND REPORTS.

### FORTHCOMING MEETINGS.

British and Irish Home Rule, 31st October.

Office of Railway Trade Secretary, 4th August 1913.

Canadian Pacific Railway, 1st September 1913.

### LIMA RAILWAYS.

The directors submit for the information of the shareholders an interim report, together with the revenue account for the half-year ended June 30 last, and particulars dealing with the main features of the company since the last annual report. The following statement shows a summary of the revenue account, and a comparison with the corresponding six months

Expenses in Peru	808	5,430	4,622
Net receipts		2,323	
London charges, &c.	1,007	1,000	
Deb. stock service	2,512	2,512	
Leaving a profit on net revenue for half-year	£3,775	£840	£4,614
		(Loss in 1912.)	

The net earnings of the half-year, as above stated, have amounted to £3,775, and after deducting the debit balance from 1912 of £45, there remains a sum to the credit of net revenue of £3,730, from which the directors have resolved to declare an interim dividend of 1s. per share, which will absorb £2,000, leaving a balance of £1,730 to be carried forward to the current half-year.

### CANADIAN PACIFIC RAILWAY.

The directors of the Canadian Pacific Railway Company last state that the accounts of the company show the following results:—

Gross earnings	\$130,305,000.08
Working expenses	93,146,825.84

Net earnings .. .. .  
amount included in monthly reports

Surplus ..	
Deduct amount transferred to steamship replacement account	\$1,000,000.00
Contribution to pension fund	125,000.00

From this there has been charged a half-yearly dividend on preference stock of 2 per cent, paid April 1, 1913, and three quarterly dividends of 1 1/4 per cent, each, paid January 2, 1913, April 1, 1913, and June 30, 1913, and interest on instalments paid October 15, 1912 ..

From this there has been declared a second half-yearly stock, payable October 1,







## THE CHANNEL TUNNEL PROJECT.

to 30, whereas there is only one journey undertaken between the two countries by the Channel Tunnel. The importance of international trade. Between 1902 and 1907 French trade with Germany increased from 447,080,000 to 481,200,000.

between France and England consisted of coal. Coal, therefore, represented about 60 per cent. of the total tonnage of Anglo-French trade. The conclusion drawn by M. Sartiaux is that a tunnel is an economic necessity. As to the strategic point of view he says that the traction in the tunnel would be electric, and the cables could be cut in a moment on one side or the other. But in view of the Anglo-French *entente*, people in England are beginning to think that the tunnel would really be advantageous in the interest of national defence.

## ELECTRICITY v. STEAM.

are well worth careful perusal. As Mr. Hobart says, the use of electricity, especially on trunk lines, has hardly ever been adopted from consideration of its merits relative to steam; the change has been almost compulsory in the case of dense suburban traffic and long tunnels. A case is worked out in which a certain steam train would burn 6.7 tons of coal as against the 2.9 tons which would be required to produce an equivalent amount of electric current, and at a lesser cost per ton of coal. Of course the comparative merits of electric traction would have to be proved up to the hilt to warrant the abolition of all steam locomotives, and indeed Mr. Hobart utters a warning against arguing from the particular to the general. On the other hand the demand for locomotives all over the world is so great that there ought to be little difficulty in disposing of engines discarded solely on account of a radical change. The change of gauge on the Great Western and the conversion of the Metropolitan railways involved the laying

was not sufficiently ruinous to prevent the conversion from steam being effected.

## RAILWAY LABOUR QUESTIONS.

The wages board for New South Wales has given what is the first award in that State dealing with the locomotive engine drivers, firemen, and cleaners in the employ of the

is to work more than 55 hours per week. The claim asked for a week of 52 hours. Cleaners are to do twelve shifts of eight hours each, the shifts to be worked in rotation. The allow-

The interval between the shifts has been made to hours, instead of eight, as at present. Payment for overtime has been introduced, time and a quarter being allowed. The effect of

will go up by 1s. per day, and the wages of 1,000 cleaners and others, including boys by 6d. per day. This will mean an

pool district platelayers have passed a resolution declining after next week to be responsible for the safety of the travelling

public, or to undertake special duties, unless their demand is met. The strikers have also decided to refuse to work on the London and North Western Railway after the 11th inst. The strikers have also decided to refuse to work on the London and North Western Railway after the 11th inst.

Railway have made the following demands:—A guaranteed week's work, increase of 3s. per week for all classes of men; Sundays, Christmas Days, Good Fridays, and all overtime to be paid at the rate of time and a half; declassification of signal cabins to be brought under the conciliation boards; vacancies to be advertised in the weekly excursion time tables; no man to be required to work twelve hours in any one day except when other men are off on sick leave.

the Great Indian Peninsula Railway administration has reinstated the employees who went on strike in June and restored to them the former conditions of service as regards pay, allowances and the provident fund. Mr. H. A. L. Hooper, the agent, has announced that he can hold out no hope of any possibility of the former service of the strikers being allowed to count for the retiring gratuity. This gratuity is not a condition of service. It is a free gift which the company may at their discretion make on certain clearly defined conditions. The staff were reminded before the strike that those who absented themselves would break the continuity of their service for the retiring gratuity.

## "INDUSTRIAL LIGHTING."

This is the title of a well-illustrated pamphlet issued by the British Thomson-Houston Company. The book gives useful data and information on the important subject of mill and factory illumination, and information, moreover, which should be of the utmost service to owners and managers. The subject is presented clearly and logically, it being first shown why good lighting is necessary, then the results which accrue from improved lighting, and thirdly, how good lighting may be obtained. The book contains a number of illustrations of mills and factories which have been lighted in an up-to-date and scientific manner. To quote from the preface: "In manufacturing work, it is necessary to supply the best tools and the best facilities, and amongst such facilities light stands first. We want to emphasise the point that light is a tool. It is the most important tool in the industrial plant. It is the tool by means of which all other tools are run." It is shown how good lighting not only conduces to economical factory operation, but also minimises the risk of accidents and breakdowns, and generally reacts favourably on the health, and therefore on the working efficiency, of employees.

One important advantage in improved lighting is indicated in the statement that "experts give one per cent. as the average gross spoilage in our total manufacture, an item in the year 1907 of approximately £12,500,000. Of this large amount of spoilage 75 per cent. is estimated to have occurred under artificial light, and expert opinion indicates that 25 per cent. of this could be saved by the use of good illumination." Statistics bearing upon industrial accidents, in which operatives or machinery or both suffer, closely parallel the figures relating to spoilage. Spoilage or "seconds" may, by the critical, be said to be due to carelessness, bad feeling among operatives, or a false economy on the part of employers in entrusting machines and materials to ignorant or untrained help. But serious personal accidents have a deeper cause, and when the two forms of accident are found to increase with the days of diminishing daylight and to decrease as the daylight hours lengthen, it is obvious that light is a factor in reducing both.

Two charts are published in the book which tell graphically the story of the loss and suffering which result from inadequate, light. In the one is shown the average ratio between darkness, cloudiness, and sunlight. In the other is set forth the "curve" of total industrial accidents in three successive years as reported from 80,000 industrial plants. These charts show that fatal accidents increase during the dark periods of the year, and decrease as the days get longer.

The British Thomson-Houston Company are experts in industrial lighting, and in this book they have not only shown



Mazda drawn-wire electric lamps, equipped with scientifically

pliances, correctly arranged so that adequate illumination is given over the desired areas, provide a convenient and inexpensive lighting unit of high efficiency. The company have organised an illuminating engineering department equipped with every modern facility and appliance for the design and testing of lighting apparatus and the preparation of installation schemes. This department has carried out scientific lighting installations with Mazda lamps and Mazdalux reflectors in a number of large factories. Some of these installations are illustrated and the illustrations provide striking evidence of the efficiency of the company's lighting methods.

At the end of the book the company makes an offer placing their illuminating engineers' services at the disposal of manufacturers free of charge. An interesting commentary on the need for improved industrial illumination is afforded by the fact that the Government have recently appointed a Special Committee to investigate and report upon the question of factory lighting. Readers desiring copies of "Industrial Lighting" should write to the company's London office, 77, Upper Thames Street, E.C.

### PERSONAL.

Mr. Alex. Soley, of the London and North Western Railway, has been appointed to the post of general manager of the London and South Western Railway. Mr. Eames, of the London and North Western Railway, has been appointed to the post of general manager of the London and South Western Railway.

Mr. G. Huddleston, C.I.E., formerly general traffic manager of the London and North Western Railway, has been appointed to the post of general manager of the London and South Western Railway.

Mr. A. J. Sleigh, executive engineer, North Western Railway, has been appointed to the post of general manager of the London and South Western Railway.

Mr. H. B. Dougherty, the assistant superintendent (operating), has been appointed to the post of general manager of the London and South Western Railway.

Mr. J. I. Dan-ample, of the London and North Western Railway, has been appointed to the post of general manager of the London and South Western Railway.

Mr. R. W. Langton, chief clerk to the mechanical engineer, East London, has retired on account of abolition of office.

Mr. Santiago C. Marengo, assistant general manager of the Buenos Ayres Railway Company and the Lacroze Tramway Company, will take the post of general manager of the Buenos Ayres Railway Company.

Mr. John M. Gibbon, at one time editor of *Black and White*, and author of "Scots in Canada," has been appointed general publicity agent of the Canadian Pacific Railway, Montreal.

Mr. Gibbon, until this promotion, held the position of advertising agent of the Canadian Pacific Railway, Montreal.

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### RAILWAY NOTES.

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## RAILWAY STOCK AND SHARE LIST.

### HOME RAILWAY ORDINARY STOCKS.

[illegible]

### Debenture Stocks

Alexandra Docks and Railway.....	4%	91	85
Barnes and Morten A .....	4	107	90
Barnes and D. B. ....	4	79	81
Camden A. ....	4	109	105
Canterbury .....	4	99	95
D. B. ....	4	78	8
D. C. ....	4	71	15
D. D. ....	4	74	4
D. E. ....	4	70	6
Cardiff .....	4	70	6
Central London .....	4	94	9
City and South London Perpetual .....	4	97	9
City and South London June .....	4	91	9
East London and Fenchurch .....	4	111	95
D. A. ....	4	70	6
D. B. ....	4	70	6
D. C. ....	4	72	11
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D. KF. ....	4	71	11
D. KG. ....	4	71	11
D. KH. ....	4	71	11
D. KI. ....	4	71	11
D. KJ. ....	4	71	11
D. KK. ....	4	71	11
D. KL. ....	4	71	11
D. KM. ....	4	71	11
D. KN. ....	4	71	11
D. KO. ....	4	71	11
D. KP. ....	4	71	11
D. KQ. ....	4	71	11
D. KR. ....	4	71	11
D. KS. ....	4	71	11
D. KT. ....	4	71	11
D. KU. ....	4	71	11
D. KV. ....	4	71	11
D. KW. ....	4	71	11
D. KX. ....	4	71	11
D. KY. ....	4	71	11
D. KZ. ....	4	71	11
D. LA. ....	4	71	11
D. LB. ....	4	71	11
D. LC. ....	4	71	11
D. LD. ....	4	71	11
D. LE. ....	4	71	11
D. LF. ....	4	71	11
D. LG. ....	4	71	11
D. LH. ....	4	71	11
D. LI. ....	4	71	11
D. LJ. ....	4	71	11
D. LK. ....	4	71	11
D. LL. ....	4	71	11
D. LM. ....	4	71	11
D. LN. ....	4	71	11
D. LO. ....	4	71	11
D. LP. ....	4	71	11
D. LQ. ....	4	71	11
D. LR. ....	4	71	11
D. LS. ....	4	71	11
D. LT. ....	4	71	11
D. LU. ....	4	71	11
D. LV. ....	4	71	11
D. LW. ....	4	71	11
D. LX. ....	4	71	11
D. LY. ....	4	71	11
D. LZ. ....	4	71	11
D. MA. ....	4	71	11
D. MB. ....	4	71	11
D. MC. ....	4	71	11
D. MD. ....	4	71	11
D. ME. ....	4	71	11
D. MF. ....	4	71	11
D. MG. ....	4	71	11
D. MH. ....	4	71	11
D. MI. ....	4	71	11
D. MJ. ....	4	71	11
D. MK. ....	4	71	11
D. ML. ....	4	71	11
D. MN. ....	4	71	11
D. MO. ....	4	71	11
D. MP. ....	4	71	11
D. MQ. ....	4	71	11
D. MR. ....	4	71	11
D. MS. ....	4	71	11
D. MT. ....	4	71	11
D. MU. ....	4	71	11
D. MV. ....	4	71	11
D. MW. ....	4	71	

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### Preference Stocks.

[illegible]

### Preference Stocks—

[illegible]





# OFFICIAL TRAFFIC RETURNS.

## Barry.

Week ending August 25	1913.	1912.
Passengers, etc.	2,141	2,141
Goods, etc.	40,100	40,100
Total for week	42,241	42,241
Aggregate for 34 weeks	143,619	143,619
Inc. this week, 1912	1,000	1,000

## Caledonian.

Week ending August 25	1913.	1912.
Passengers, etc.	46,326	46,326
Goods, etc.	3,719	3,719
Total for week	50,045	50,045
Aggregate for 34 weeks	1,723,500	1,723,500
Inc. this week, 1912	1,000	1,000

## Cambrian.

Week ending August 25	1913.	1912.
Passengers, etc.	46,326	46,326
Goods, etc.	3,719	3,719
Total for week	50,045	50,045
Aggregate for 34 weeks	1,723,500	1,723,500
Inc. this week, 1912	1,000	1,000

## Central London.

Week ending August 25	1913.	1912.
Passengers, etc.	43,857	43,857
Goods, etc.	44,306	44,306
Total for week	88,163	88,163
Aggregate for 34 weeks	2,997,542	2,997,542
Inc. this week, 1912	1,000	1,000

## City and South London.

Week ending August 25	1913.	1912.
Passengers, etc.	4,141	4,141
Goods, etc.	4,141	4,141
Total for week	8,282	8,282
Aggregate for 34 weeks	143,619	143,619
Inc. this week, 1912	1,000	1,000

## Dublin and South Eastern.

Week ending August 25	1913.	1912.
Passengers, etc.	4,141	4,141
Goods, etc.	4,141	4,141
Total for week	8,282	8,282
Aggregate for 34 weeks	143,619	143,619
Inc. this week, 1912	1,000	1,000

## Furness.

Week ending August 24	1913.	1912.
Passengers, etc.	14,800	14,800
Goods, etc.	14,334	14,334
Total for week	29,134	29,134
Aggregate for 34 weeks	1,012,188	1,012,188
Inc. this week, 1912	1,000	1,000

## Glasgow and South Western.

Week ending August 25	1913.	1912.
Passengers, etc.	22,700	22,700
Goods, etc.	22,900	22,900
Total for week	45,600	45,600
Aggregate for 34 weeks	1,285,100	1,285,100
Inc. this week, 1912	1,000	1,000

## Great Central.

Week ending August 25	1913.	1912.
Passengers, etc.	106,400	106,400
Goods, etc.	106,400	106,400
Total for week	212,800	212,800
Aggregate for 34 weeks	3,557,900	3,557,900
Inc. this week, 1912	1,000	1,000

## Great Eastern.

Week ending August 25	1913.	1912.
Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000
Total for week	2,000	2,000
Aggregate for 34 weeks	33,557	33,557
Inc. this week, 1912	1,000	1,000

## Great Northern.

Week ending August 25	1913.	1912.
Passengers, etc.	4,275,400	4,275,400
Goods, etc.	3,967,800	3,967,800
Total for week	8,243,200	8,243,200
Aggregate for 34 weeks	1,008,000	1,008,000
Inc. this week, 1912	1,000	1,000

## Great Northern (Ireland).

Week ending August 25	1913.	1912.
Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000
Total for week	2,000	2,000
Aggregate for 34 weeks	33,557	33,557
Inc. this week, 1912	1,000	1,000

## Great North of Scotland.

Week ending August 25	1913.	1912.
Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000
Total for week	2,000	2,000
Aggregate for 34 weeks	33,557	33,557
Inc. this week, 1912	1,000	1,000

## Great Southern and Western.

Week ending August 25	1913.	1912.
Passengers, etc.	455,251	455,251
Goods, etc.	1,150,400	1,150,400
Total for week	1,605,651	1,605,651
Aggregate for 34 weeks	241,580	241,580
Inc. this week, 1912	1,000	1,000

## Great Western.

Week ending August 25	1913.	1912.
Passengers, etc.	183,000	183,000
Goods, etc.	151,700	151,700
Total for week	334,700	334,700
Aggregate for 34 weeks	8,959,000	8,959,000
Inc. this week, 1912	1,000	1,000

## Highland.

Week ending August 24	1913.	1912.
Passengers, etc.	4,905	4,905
Goods, etc.	4,905	4,905
Total for week	9,810	9,810
Aggregate for 34 weeks	143,619	143,619
Inc. this week, 1912	1,000	1,000

## Hull and Barnsley.

Week ending August 24	1913.	1912.
Passengers, etc.	498	498
Goods, etc.	15,208	15,208
Total for week	15,706	15,706
Aggregate for 34 weeks	15,208	15,208
Inc. this week, 1912	1,000	1,000

## Lancashire and Yorkshire.

Week ending August 24	1913.	1912.
Passengers, etc.	482,000	476,711
Goods, etc.	4,264,272	4,003,702
Total for week	4,746,272	4,480,413
Aggregate for 34 weeks	4,264,272	4,003,702
Inc. this week, 1912	1,000	1,000

Week ending August 24	1913.	1912.
Passengers, etc.	498	498
Goods, etc.	15,208	15,208
Total for week	15,706	15,706
Aggregate for 34 weeks	15,208	15,208
Inc. this week, 1912	1,000	1,000

Week ending August 24	1913.	1912.
Passengers, etc.	498	498
Goods, etc.	15,208	15,208
Total for week	15,706	15,706
Aggregate for 34 weeks	15,208	15,208
Inc. this week, 1912	1,000	1,000

## London Electric.

Week ending August 25	1913.	1912.
Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000
Total for week	2,000	2,000
Aggregate for 34 weeks	33,557	33,557
Inc. this week, 1912	1,000	1,000

## London and North Western.

Week ending August 24	1913.	1912.
Passengers, etc.	183,000	183,000
Goods, etc.	151,700	151,700
Total for week	334,700	334,700
Aggregate for 34 weeks	8,959,000	8,959,000
Inc. this week, 1912	1,000	1,000

## London and South Western.

Week ending August 25	1913.	1912.
Passengers, etc.	4,275,400	4,275,400
Goods, etc.	3,967,800	3,967,800
Total for week	8,243,200	8,243,200
Aggregate for 34 weeks	1,008,000	1,008,000
Inc. this week, 1912	1,000	1,000

## Metropolitan.

Week ending August 25	1913.	1912.
Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000
Total for week	2,000	2,000
Aggregate for 34 weeks	33,557	33,557
Inc. this week, 1912	1,000	1,000

## Metropolitan District.

Week ending August 25	1913.	1912.
Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000
Total for week	2,000	2,000
Aggregate for 34 weeks	33,557	33,557
Inc. this week, 1912	1,000	1,000

## Midland.

Week ending August 25	1913.	1912.
Passengers, etc.	418,251	418,251
Goods, etc.	172,052	172,052
Total for week	590,303	590,303
Aggregate for 34 weeks	1,410,400	1,410,400
Inc. this week, 1912	1,000	1,000

## Midland Great Western of Ireland.

Week ending August 25	1913.	1912.
Passengers, etc.	57,133	57,133
Goods, etc.	7,401	7,401
Total for week	64,534	64,534
Aggregate for 34 weeks	2,241,580	2,241,580
Inc. this week, 1912	1,000	1,000

## North British.

Week ending August 24	1913.	1912.
Passengers, etc.	437,100	435,100
Goods, etc.	59,700	59,700
Total for week	496,800	494,800
Aggregate for 34 weeks	14,735,000	14,735,000
Inc. this week, 1912	1,000	1,000

## North Eastern.

Week ending August 25	1913.	1912.
Passengers, etc.	7,517,418	6,272,413
Goods, etc.	15,208	15,208
Total for week	7,532,626	6,287,621
Aggregate for 34 weeks	257,000	257,000
Inc. this week, 1912	1,000	1,000

## North London.

Week ending August 25	1913.	1912.
Passengers, etc.	23,405	23,625
Goods, etc.	5,795	5,795
Total for week	29,200	29,420
Aggregate for 34 weeks	2,278,735	2,211,494
Inc. this week, 1912	15,208	15,208

## North Staffordshire.

Week ending August 25	1913.	1912.
Passengers, etc.	29,400	29,400
Goods, etc.	14,342	14,342
Total for week	43,742	43,742
Aggregate for 34 weeks	1,697,650	1,697,650
Inc. this week, 1912	1,000	1,000

## Rhymney.

Week ending August 25	1913.	1912.
Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000
Total for week	2,000	2,000
Aggregate for 34 weeks	33,557	33,557
Inc. this week, 1912	1,000	1,000

## South Eastern and Chatham.

Week ending August 25	1913.	1912.
Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000
Total for week	2,000	2,000
Aggregate for 34 weeks	33,557	33,557
Inc. this week, 1912	1,000	1,000

## OFFICIAL TRAFFIC RETURNS.

## BRITISH AND IRISH RAILWAYS 55

## FOREIGN AND COLONIAL—Continued.

Railway.	Miles.		Incar. Freight Reported.		No. of Weeks.	Aggregate to Date.	
	1913.	1912.	Period.	1913.		1912-13.	Incar. Freight.
Atlantic Coast	118.	119.	—	—	8	157,850	— 4,000
Atlantic Coast	118.	118.	Aug. 17	4,981	131	345,768	+25,011
Atlantic Coast	402.	425.	April.	4,19,448	+14,423	14,99,418	+14,423
Atlantic Coast	155.	155.	April.	1,176,731	+30,224	1,147,763	— 1,423
Atlantic Coast	210.	210.	—	48,010	—	—	+6,720
Atlantic Coast	1,791.	1,894.	—	41,414	+51,993	90,42,798	+2,93,372
Atlantic Coast	194.	184.	July.	5,588	— 1,597	21,768	— 1,597
Atlantic Coast	113.	113.	June.	1,000	—	—	—
Atlantic Coast	678.	673.	Aug. 23	—	+536	8	+1,800
Atlantic Coast	71.	71.	—	2,203	—	116	—
Atlantic Coast	73.	73.	July.	8,000	—	2,202	—
Atlantic Coast	147.	147.	Aug. 23	5,791	—	4,291	+1,477
Atlantic Coast	112.	112.	July 31	700	—	—	—
Atlantic Coast	—	—	Aug. 9	—	—	2,043,000	+213,000
Atlantic Coast	111.	112.	—	17,182	+3,162	97,589	—

## FOREIGN AND COLONIAL RAILWAYS.

UNITED STATES RAILWAYS.

[illegible]

WORKING STATEMENTS AS LAST REPORTED.



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**THURSDAYS** (from London to Dovercourt Bay, Harwich, and Clacton-on-Sea)

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**SATURDAYS** (from London to Dovercourt Bay, Harwich, and Clacton-on-Sea)

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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, SEPTEMBER 6, 1913.

No. 10.

## PRINCIPAL CONTENTS.

## THE RAILWAY TIMES.

Established in 1837.

PUBLISHED EVERY SATURDAY.

Annual Subscription (post free), 25 shillings.

All communications for the following issue should be received not later than 6 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

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## THE MIDLAND RAILWAY DISASTER.

The lamentable accident in the Midland Railway near Here, Junction early on Tuesday morning, has brought the question of the safety of the railways more fully before the public mind. Each fresh railway accident, however, causes railwaymen to pause and think again as to methods whereby the number of accidents may be minimised, and whereby, when an accident does occur, the danger to the travelling public may be reduced. Apart from accidents caused owing to excessive speed at dangerous parts of a road, trouble arises generally from a mistake on the part of a signalman letting a train on to an already occupied section or from a mistake on the part of the locomotive crew in passing a signal at danger. Practically the only method of guarding against the former failure of the human element is to adopt a system of signalling using track circuits. The installation of such a system on all our main lines would be a most costly undertaking; in fact, in the present financial condition of the companies the cost is prohibitive. The matter of protecting trains from passing signals at danger is, however, by no means so difficult a matter, and should very seriously be considered by the railway companies. The use of a train stop working in connection with the signal has long been in use on the underground railways in London with most satisfactory results, and an arrangement of a similar character can well be installed to work with hand-operated signals on main line railways. The train stop in use on the District and associated railways consists of an arm with a cross tee piece at the head which, when the signal is at danger, stands vertically alongside the rail. If a train attempts to pass a signal at danger, this train stop engages with the handle of a cock on the train line, and opens the brake pipe to atmosphere and automatically applies the brakes. For a surface railway operating at high speeds, some modification of this arrangement is required. It would be necessary for the train stop arm to be operated by the same action as the signal so that, if the signal is at danger, the train stop is also at danger. Owing to the high speeds on main line railways, it would be preferable to substitute for the trip cock a sealed glass tube of ample size, so that, should a train attempt to pass a signal at danger, the glass would be fractured, and the brakes applied automatically. The actual position of the train stop may be moved from the track to an overhead position with the glass tube trip cock mounted on the roof of the engine cab, although, in that case, the actual striking face of the train stop would have to be considerable to allow for certain engagement, taking the oscillation of the locomotive into account. The point we desire to make is that the cost of fitting such trip cocks operating in connection with the present hand signalling is not necessarily prohibitive, even though it is high, and such a device would absolutely prevent a driver passing a signal at danger. If the accounts of the Midland disaster are true, the smash of last Tuesday morning would have been avoided had such a contrivance been fitted.

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**MOORGATE STREET, LONDON.**

J. M. E. ARMSTRONG, Manager & Secretary

With regard to the question of lighting trains, it is a little difficult to understand why so little has been done to carry out the recommendations of Major Pringle in his report on the last accident on the Midland Railway, in connection with the substitution of electricity for gas as an illuminant. The question of the cost is very serious, but the added safety attained by the use of electric light is so great that we are of opinion that the railway companies should voluntarily carry out the change. The carrying of large quantities of highly inflammable gas, and always will be, "asking for trouble," no matter what precautions are taken. After a smash in the dark, apart from the danger of hot coals, passengers will strike matches, and then trouble starts. The dangers of electric lighting have always been exaggerated in the columns of the daily press, and there is less risk in its use on railway trains than in ordinary houses. Questions of transmission do not enter into the problem, and accordingly very low pressures can be used. So long as the pressure does not exceed 40 volts, there is no danger of an arc forming, the only risk being overheating due to bad wiring, and this can be avoided. The use of low voltages also makes possible the use of very strong metal filament lamps. Of course, it has to be decided what system of lighting is to be adopted, and there are several alternatives. The most usual form is to mount a generator under each car, such generator being designed to give a constant voltage over a wide range of speeds. Together with this, a small storage battery is installed, governed by a centrifugal switch, so that when the speed of the train falls below a certain minimum, the generator is cut out of circuit and the lighting is entirely carried by the battery. This system has the disadvantage, however, that a very large battery has to be installed to supply current for cooking while the train is standing at a station. In order to get rid of a completely electric cooking, or, at least, electric heating of food already cooked must be resorted to, so that probably the only solution is the installation of a generating plant to deal with a train as a whole. Suggestions have appeared in the daily press of using a separate vehicle containing an oil-engine-driven generator, but there seem possibilities in the installation of a small exhaust steam-turbine-driven generator mounted on the locomotive itself. The accident again brings up the question of steel coaches, and it is interesting to note that the tendency in America is to build very strong steel coaches as near collision-proof as possible, fitted with corrugated anti-climbing beams, and so on, but of course, in America the actual possibility of a collision in a collision is a great deal to be said for their use.

### THE NEXT CRISIS.

THE last few years have been years of trouble and depression, and imports and exports have expanded and contracted. The department of industry has been through a period of exceptional activity. This growth dates from the depression which followed the crisis of 1907—a crisis which resulted from over-trading in the United States of America, where the amount of money available for current necessities of business was found to be inadequate for the demands made upon it. Early in the year, after the termination of period of peace and prosperity, the crisis of 1907, which was of a severity, had attracted the attention of political economists, and the question of a crisis of 1913 had attracted greater attention than this, and few have more often been made a subject for popular exposition. Times of prosperity, as everyone knows, begin with a low Bank Rate prevailing, and end with a high one sharply inflicted. In any diagram on which the average annual Bank Rate is set out from year to year, such as appeared in our issue of August 23, the line recording its changes will be seen to hang festooned from the dates when trade

was made subject to the pruning-hook of interest and discounts at high rates. A reference to such a diagram would show that in 1890, the year of the Baring crisis, an average Bank Rate of 3.97 per cent. was imposed upon the market and ushered in a period of dull trade which extended over several years. The prosperity which supervened culminated in 1900, when the average Bank Rate was but 4.22 per cent. for the year. In 1907, when a monetary crisis in the United States of America again caused a set-back in the prosperity of trade here, the average Bank Rate for the year rose to 4.94 per cent. These are portentous figures. Changes in business conditions which they caused or accompanied will be within the memory of most of our readers. It is well to consider what light is thrown upon the present state of affairs by this aspect of experience in the past. The Bank Rate was raised to 5 per cent. on October 17 last year, and reduced to 4½ per cent. on the same day in the following April. The dates and changes are given in the column devoted to money and the stock markets. During the past twelve months we have therefore been subject to an official minimum rate of discount higher than was the average during any of the years of crisis noted above save that of 1907. For the year 1913, 5 per cent. was in force for the first third and 4½ has ruled ever since. Judging by the current rate quoted for four months' bills, it is not considered probable that any change will be made until 1914. The 4½ per cent. rate which has been continued through the summer is, however, in itself extraordinary, and the maintenance of this high figure for so long may render further augmentation during the autumn unnecessary. Thus it seems likely that the average Bank Rate for 1913 will work out at something like 4½ per cent., which again is higher than obtained in any year of recent crisis save 1907. According to this comparison we ought to be already in the midst of another crisis, but in point of fact the significance of the rates charged for discount and interest cannot be gauged by their absolute amount, but must be referred to the rent which is commanded by loanable capital. The best measure of the latter is afforded by the index number for the best debentures of English railways, the figures for which we publish from time to time. The present yield from these stocks is now but a shade under four per cent. In 1890 it was 3.97 per cent.; in 1900, 2.03; and in 1907, 3.45. The real significance of financial conditions in this aspect is, that in the three last critical periods trade began to wither under the influence of high rates for the use of money when the average Bank Rate for the year approached a figure rather less than half as much again as that commanded by loan of capital, as gauged by the yield upon debentures of English railways. The latter figure has been as high as 4.02 per cent. this year, and is now above 3.9 per cent., so that although the average Bank Rate seems likely to work out at about 4½ per cent. for the year, it is still much below the critical point which, judging by the analogy of experience in the recent past, must now be something over 5½ per cent. Hence, according to this reasoning there is no immediate cause for alarm.

### RAILWAYMEN'S UNREST.

The present unrest amongst railwaymen is due to many causes some of them inherent in human nature and others clearly but not easily preventable. One of the unavoidable causes is that, so-called, "divine" discontent arising from the differences between men, born of heredity, breeding, and temperament. It is evident that even if everyone started at scratch and with the same opportunities, some individuals would forge ahead and soon out-distance their competitors; the mass would keep plodding away in the ruck while others would drop hopelessly behind. It is only natural that the main body should envy the successful men and should endeavour to



account for such success by any but the true explanation, while those who dropped out also that would become bitter enemies of the whole human race. This discontent it will be impossible to eradicate until the millennium arrives. The preventable reasons for almost universal discontent are many and are, no doubt, being gradually but surely lessened in number, in spite of malignant influences to the contrary. The absurd idea that there is or possibly can be any sharp division line between capital and labour is one of them. This idea has been fostered by the increasing magnitude of industrial undertakings which has loosened the bonds between the employer (now generally an impersonal being) and the employees who are becoming more and more like parts of a machine, which their masters only notice when any creaking takes place owing to the want of the lubricating oil of kindness, consideration or even fellowship. This state of things is likely to get worse instead of better, and therefore other means should be found for fostering those fraternal feelings without which no real peace is possible. If the chiefs cannot descend into the arena where the multitudes are struggling, their sons or other relations should be able to mingle with the masses on equal terms, and thereby introduce that heaven of "Sittlichkeit," which Lord Haldane extols, and which would change the whole character of the rough material from which our labouring classes are moulded. That this is not an idle dream is proved by what is done in that line in America and in Canada. There students at the universities and school work as common labourers, greatly for the love of the thing, and also to earn something towards their keep during the summer months, and they return to their studies during the long winter nights when little outdoor work is possible. Should their studies prove fruitless, as too often happens, the unsuccessful ones need not become tender feet or corner men or wastrels, but can take up farming, construction, or maintenance on railways and other engineering work—or any of those occupations of which they have learnt something during their summer vacations—and in which, being well fitted, they will probably be quite successful. Indeed, the outdoor, rough life is looked upon by the students as a delightful change from a sedentary one; they become friendly with their humbler fellow-workers who, finding them good fellows after all, help them in every way. Much of such pleasant intercourse is also fostered by a course of military training under commissioned officers. We say "commissioned" officers because it is only by the education they receive at schools and colleges that Army officers learn how to enforce strict discipline, while gaining not only the esteem but the affections of the men whom they have to treat so severely and even harshly at times. While on duty the soldier has to obey implicitly his superiors in rank, whether in their presence or, as often as not, in lonely places where nothing but discipline enables him to obey orders to the letter as well as in the spirit. But when off duty a spirit of camaraderie exists in all ranks. The foregoing are two means of bridging the artificial gulf between classes. This gulf, by the way, does not really exist except in the minds of agitators who live by fostering hatred, and whose occupation would be gone were the national sporting instincts of every true-born Englishman allowed fair play, an instinct which makes him that decent member of society he is always found to be unless, by mistaken forms of education and by other mismanagement, the natural bent of his mind is thwarted and is turned into directions that can only lead to destruction, in the end, of all for which life is worth living.

Signal Superintendents and Engineers. The following are the names of the Railway Superintendents and Engineers who have been appointed to the various districts of the railway system.

## MONEY AND STOCK MARKETS.

Continuation Days.	Pay Day.
Mines .....	Oct. 15.
General .....	Oct. 15.
Mines .....	Oct. 15.
General .....	Oct. 15.
Mines .....	Oct. 15.
General .....	Oct. 15.

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last Friday.	One Year Ago.
Bank's Coin and Bullion	£43,000,000	£43,000,000	£43,000,000
Total Reserve	£43,000,000	£43,000,000	£43,000,000
Proportion of Reserve to Liabilities	100 p.c.	100 p.c.	100 p.c.
Notes in Circulation	£29,403,415	£29,248,970	£29,274,370
Bank Rate	4½ p.c.	4½ p.c.	4½ p.c.
Open Market Discount	3½ p.c.	3½ p.c.	3½ p.c.
Bankers' Clearing House	£34,544,000	£35,204,000	£34,975,000
Silver bars, per oz. (spot)	74½ d.	74½ d.	74½ d.
Consols (account)	74½ d.	74½ d.	74½ d.
French 3 per cent. (acc.)	88½	87½	87½
Paris Cheque exchange	241.2	241.2	241.2
New York 30 days bill	84½	84½	84½
Rio de Janeiro exchange	100.1	100.1	100.1
Valparaiso 30 days bill	100.1	100.1	100.1
Calcutta transfers	18.4	18.4	18.4
Hong Kong transfers	18.4	18.4	18.4
Shanghai transfers	28.8	28.8	28.8

The Bank Return this week shows £129,000 received on balance from abroad, but the internal demand for coin, amounting to a small matter of £39,000, coupled with an increase in the active note circulation of £214,000, caused a decline of £124,000 in the Reserve. None of the changes recorded are considerable in amount. Public Deposits have declined £466,000. Government Securities show no change. Private Deposits have risen £150,000 to £44,566,000, which is two and a-half millions below the figure which obtained at the corresponding date of last year. Other securities have declined £40,000 only. As the result of all changes the ratio of Reserve to the liabilities of the Bank has reached 59.6 per cent., or over 10 points more than it was a year ago, when the Bank Rate was half a per cent. lower. On the Stock markets business has rather contracted than otherwise. The commencement of a new month has certainly not wrought any improvement so far. Prices tended to firmness at first, in the belief that an improvement was due, but as no support was forthcoming dulness soon yielded to weakness, as is so often the case, and quotations began to droop away. There is a large amount of new borrowing to be negotiated in the near future, much of which is urgent, and although it suits the policy of issuing financiers that the market should be prepared by a rise in the general level of quotations, the knowledge that such buoyancy. The monetary needs of the Balkan Kingdoms are to be ministered to when the cessation of loaning on the Continent has released the cash required for such operations. At least this is the programme favoured abroad. There are, however, much more serious demands

which the market is still whether in Europe or South America, to be considered. France, Germany, Spain and Russia have each in contemplation an appeal to the pockets of the saving and investing public.

Home rails, though little was doing, the market was firm. A small rise in British Government securities was accompanied by some slight improvements in foreign stocks, and although United States railways were somewhat lower on balance, a rise occurred in Trunks and Mexicans. Home rails were irregular with very small movements. When the markets re-opened on Monday, very similar conditions prevailed. Consols advanced a trifle, Perus were quoted higher, Canadas made an improvement of  $1\frac{1}{2}$  and Northern Mexican Preferred rose  $\frac{1}{2}$  to  $16\frac{1}{2}$ . The Home rails the balance of movements was rather adverse. The meeting of the North Eastern Railway employees at Stockton and the prominence of the eight hours agitation in the programme of the Trades Unions Congress did nothing to help them. The next day, while the rest of the market was similarly affected by the same influences as before, Home rails were further depressed by the accident on the Midland line, and this really seemed to usher in a tendency to greater dullness all round. Consols eased  $\frac{1}{2}$  with other British Government stocks, for no assignable reason. Paris sent over weaker prices. United States railways were affected by less favourable crop reports, and by the filing of an anti-trust suit against the Reading Company for separation of the coal part of the business. The following day opened still less favourably. In addition to a decline in British Government stocks, some Colonial securities were quoted lower, and liquidation in Brussels and Paris caused a fall in Brazil railway stocks, while Canadas and Mexicans declined sharply. Some recovery occurred in the latter, but in the case of Canadian railways, and on the whole business would rather better than it began.

Consols, the influence of business was sufficient to make the progress of the Home rails almost the next day more than ordinarily welcome. Indeed there was some talk of making every other Saturday a holiday until the end of October, needful repairs and decorations affording the always ready excuse. Meanwhile prices weakened perceptibly. Home Rails were, to some extent, influenced by the progress of the inquiry into the accident at Aisgill, though nothing transpired to the disadvantage of the Companies save the general disposition to find fault with them. These inquiries are too apt nowadays to degenerate into attempts to discover some pretext for casting blame upon British railway managers. Another cause for the neglect into which Home rails are now fallen is to be found in the fact that the increase of rates inaugurated by the Government has led many to think the rate of expansion is over rather than it is.

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Name of Stock.		Rise.	Fall.
London & S. Western	..	..	..
Do. Def. Con.	..	..	..
Metropolitan	..	..	..
Metropolitan District	..	..	..
Midland Def. Ord.	..	..	..
North British Pref. Ord.	..	..	..
Do. Def. Ord.	..	..	..
North Eastern Cons.	..	..	..
North Staffordshire	..	..	..
South Eastern	..	..	..
Do. Deferred	..	..	..
Tat. Vale	..	..	..
Underground Electric	..	..	..
Do. $4\frac{1}{2}$ p.c. Bonds	..	..	..
Do. 6 p.c. Bonds	..	..	..

Name of Stock.		Rise.	Fall.
Illinois Central	..	..	..
Louisville & Nashville	..	..	..
Missouri Kans. & Texas	..	..	..
New York Central	..	..	..
N.Y., Ont. & Western	..	..	..
Norfolk & Western	..	..	..
Do. Preferred	..	..	..
Pennsylvania	..	..	..
Reading Common	..	..	..
Southern & N. Am. Com.	..	..	..
Southern Common	..	..	..
Do. Preferred	..	..	..
Union Pacific	..	..	..
Do. Preferred	..	..	..

U.S. Steel Corp. Com.	..	..	..
Do. 7 p.c. Cum. Pref.	..	..	..

Colonial Railways.		Rise.	Fall.
Canadian Pacific	..	..	..
Grand Trunk of Canada	..	..	..
Do. 4 p.c. Guaranteed	..	..	..
Do. 2nd Preference	..	..	..
Do. 3rd Preference	..	..	..

American Railways.		Rise.	Fall.
Atchison Common	..	..	..
Baltimore and Ohio	..	..	..
Chesapeake and Ohio	..	..	..
Chicago Gt. Western	..	..	..
Chicago Mil. & S. Paul	..	..	..
Denver & Rio Grande	..	..	..
Do. Preferred	..	..	..
Erie Common	..	..	..
Do. 1st Pref.	..	..	..
Do. 2nd Pref.	..	..	..
Nitrate Ordinary	..	..	..
Ottoman (Smyrna to Aidin)	..	..	..
Un. of Havana Ord.	..	..	..

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways for the week ended August 31 gives a total of £2,730,272, which was earned on 21,951 miles, being at the rate of £124 15s. 6d. per mile of line open. For the corresponding week of 1912 the receipts of the same lines amounted to £2,671,761, with 21,860 miles open, or £122 1s. per mile. Thus there was an increase of £58,511 in the receipts, an increase of 61 in the mileage, and an increase of £2 14s. 6d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £83,394 (or £3 13s. 11d. per mile) in the passenger receipts and a decrease of £12,551 (or 15s. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the thirty-five weeks in the passenger receipts has been £2,481,000, while the aggregate increase in the goods traffic was £4,078,599. The aggregate receipts of the fifty railways for thirty-five weeks (December 29 to August 31) amounted to £81,300,104, in comparison with £74,540,597 last year, an increase of £6,759,507, not including receipts from certain canals, etc.

### Index Numbers of Railway Debentures.

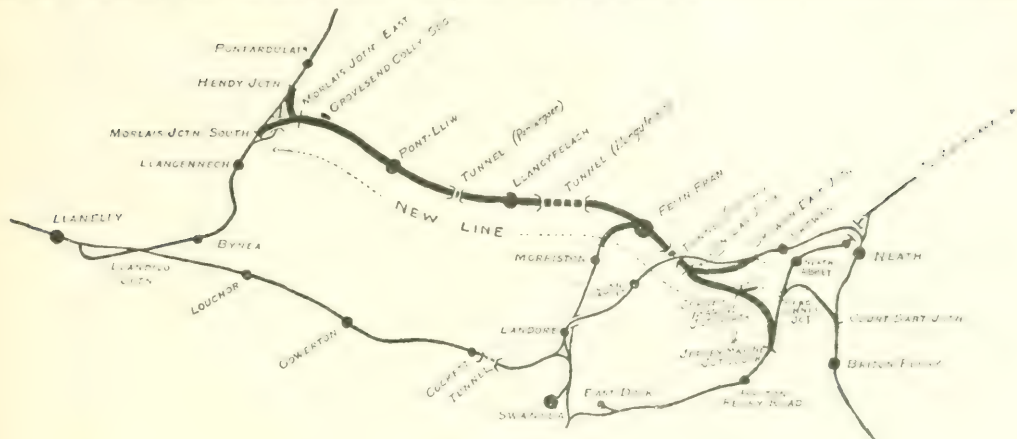
Our Index Numbers for the prices of best debentures of English Railways, based on the average yield obtained from these stocks, are repeated below and brought up to date. The rate of interest is assumed to be  $3\frac{1}{2}$  per cent.

Year.	Month.	Index Number.
1871	End of October	84
1881	November	84
1891	December	84
1900	January	81
1901	February	81
1902	March	81
1903	April	81
1904	May	81
1905	June	81
1906	July	81
1907	Aug.	81

# NEW GREAT WESTERN LINES IN SOUTH WALES.

The proposed new lines in South Wales, from Pontardulais to Swansea, will be a considerable improvement on the existing lines, and will be a great benefit to the district. The new line will be a direct route from Pontardulais to Swansea, and will be a great benefit to the district. The new line will be a direct route from Pontardulais to Swansea, and will be a great benefit to the district.

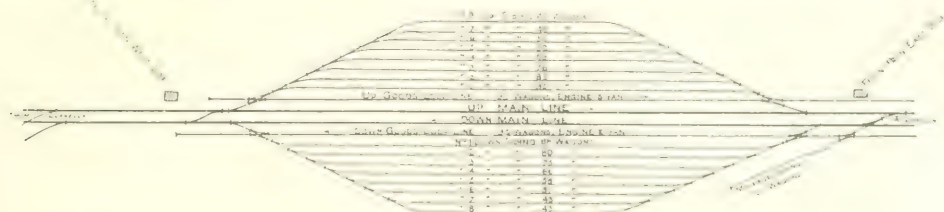
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New Swansea District Lines.

Parliament for authorisation during the last decade or two;

through route from stations north of Pontardulais to the



The Felin-Fran Sidings.

upon Swansea and the developing anthracite coalfields north of that port, and one of the most important has lately reached completion, viz., the Swansea District lines of the Great Western Railway.

We give a plan of the lines comprised in the scheme, from which it will be seen that the most important part is between Skewen and Llangennech. This section will in future form part of the Great Western Company's main line from London to Fishguard. The present main line, which was engineered by I. K. Brunel, makes a considerable detour southward is laid out with heavy gradients between Landore and Gower, which cannot be improved, the loading capacity of the line is severely handicapped. The ruling gradient of the new line is 1 in 120, while considerable lengths of it are level or approximately so; therefore it will be possible to convey over it 5000 wagon coal and other heavy trains. Moreover, the route to Fishguard over the new line is slightly shorter than the present one via Landore.

But the improvement of the main line is only one of several. Well aware, there is an enormous coal traffic from Brynmawr, Garnant and neighbouring places north of Pontardulais to the port of Swansea. Hitherto this traffic has had to be conveyed

avoidance of the heavy gradients at Cockett already referred to, will immensely facilitate and reduce the cost of operating, and it itself very largely justifies the scheme from a financial point of view.



vided from the main line near Fishguard, will be of benefit to Swansea. This part of the work, however, while being of immediate benefit, will be even more useful in future, as it will





the strata.

Following this is Llangyfelach tunnel, through tennant rock and shale. It is 1,100 yds. long, and is bored from five shafts, each enabling it to be bored in both directions, thus giving ten working faces.

Next is the Penllergar tunnel, which is 1,100 yds. long, and is bored from five shafts. Its construction is rapidly gaining ground, and is destined to supersede much work that has in the past been allotted to steel girders. The third, and last, tunnel is the Penllergar tunnel, which is 1,100 yds. long, and is bored from five shafts.

Longer viaduct of 220 yards. It is 37 feet high and has 11 spans. At the junction has been provided to enable trains to pass to and from the new line at high speed. Concurrently with the construction of the Swansea District lines, the line between Llandilo Junction, and the junction with the new line has been doubled and improved. The earthwork dealt with was very considerable, aggregating 2,346,038 cubic yards.

We are indebted to the Great Western Railway for much of the information here given, and it remains for us to add that the whole of the works were carried out under the control of that Company's new works engineer, Mr. W. Y. Armstrong, whose assistants on the ground were Mr. A. C. Cookson, Mr. S. A. Blackall and Mr. J. C. Blundell. Messrs. Thos. Oliver and Sons, of Wokingham, and Messrs. S. and M. E. Jones, of Maidenhead, were the contractors.

#### A FARMER'S INSTRUCTION TRAIN.

amount of pains and energy which have been shown by the Pennsylvania Railroad Company for the development of agriculture in the territories through which that company's system passes. The view shows the interior of what is called the field products car, which forms part of an agricultural



Field Products Car on Pennsylvania Railroad

For two days or more at each of the principal towns. The articles displayed in the field products car include 582 specimens of fruits, vegetables, grains, hay, cotton, and tobacco grown along the lines of the Pennsylvania Railroad. In connection with this train is an agent, among others agriculture, and thereby in the long run increasing the business of the railway in the rural districts. The company now claim

The first systematic action taken by the Pennsylvania Railroad the territory traversed by their lines was in 1905, when two

experimental and demonstration farms. Following this, with the co-operation of the State, agricultural colleges, special

sections of the country. Station agents were sent to the experiment stations, so that they might become thoroughly acquainted with the principles of scientific agriculture. The field products car now adopted is in charge of an officer called the Pennsylvania Railroad Agriculturist. No special section or commodity is specially exploited. On the contrary, all the specimens on view are contributed by growers at various points all over the eastern half of the railway company's system. The idea is that the farmer, seeing this fine display of products, will be spurred on to further exertions, especially in view of the fact that he may be better able than before to realise the nature of the competition which he has to meet. The railway company have also organised a companion car designed to demonstrate modern methods of agricultural dairy farm operation. The company have also inaugurated a special service to carry milk in refrigerative cars from north western New York and Pennsylvania to the seaboard cities. The dairy car contains a working model of a silo, a dairy barn in miniature, a sanitary concrete stall, and a built dairy house. In addition to sending round this train, the railway company are scattering broadcast through their territory booklets on the subjects of the cultivation of different crops, such as the live stock, etc.

#### ELECTRIFICATION FOR HEAVY COAL TRAFFIC.

In order to facilitate the handling of the heavy coal traffic on the main line of the Norfolk and Western Railway (United States) between Bluefield and Vivian, a contract has been placed with the Westinghouse Company for its electrification, on the overhead system, with 25-cycle single-phase alternating current at 11,000 volts pressure at the trolley wire.

This part of the system will be practically identical with that on the New York, New Haven and Hartford R.R. The equipment of the locomotives, however, will introduce an innovation for the United States in that they will be the single-phase-two phase type. The unique features of this design, it is expected, will result in the locomotives showing unprecedented adaptability and economy of operation. The contract calls for twenty-six 130-ton locomotives of this type, weighing 130 tons each. This extreme weight will give the machines enormous hauling capacity.

Power for the entire electrified section will be generated in a central power house located at Bluestone, W. Va., with an installed capacity of 27,000 kilowatts in turbo generators, supplied by the Westinghouse Company.

The distance to be electrically worked is thirty miles, comprising eighty-five miles of track serving one of the largest coalfields in the world. The tonnage of coal handled amounts to 65,000 tons per day, necessitating trains weighing as high as 3,250 tons. There are a number of grades on this section, the maximum being 2 per cent., and at present three Mallet locomotives are required per train. One locomotive is used at the head of the train and two for pushing. Only two electric locomotives will be required for this service, and the present speed will be doubled. The extent to which this quick train movement will enlarge the capacity of the railroad is apparent. The locomotives will be built for running speeds of approximately 7, 14, and 29 miles per hour.

One of the present impediments to rapid operation of this section is a 3,100-foot tunnel, which is difficult to ventilate. Under electric operation, of course, there will be neither smoke nor noxious gases. The traffic conditions of the section are especially well adapted to electrical operation. It is in reality a separate engine division at present, and can be operated electrically without affecting the cost of engine service on other sections of the line.

The contract is to be completed next summer. Among the advantages claimed for this electrification are the following: Traffic requirements such that a minimum electrical equipment will give practically continuous service; lower engine costs per train; the speed of operation over that division will be greatly

limited to the short hours of service on account of faster and delays incident to steam operation will be entirely eliminated.

Messrs. Ransomes and Rapier, Limited, 32, Victoria Street, London.



## TWO MIDLAND TRAINS IN COLLISION.

THE COLLISION OF TWO PASSENGER TRAINS ON THE MIDLAND RAILWAY, AT MALLERSTANG, ON MONDAY, AUGUST 30, 1915.

THE COLLISION OF TWO PASSENGER TRAINS ON THE MIDLAND RAILWAY, AT MALLERSTANG, ON MONDAY, AUGUST 30, 1915, WAS A SERIOUS ACCIDENT. THE FIRST TRAIN, CONSISTING OF TWO PASSENGER COACHES, WAS DRIVEN BY WILLIAM NICHOLSON, AND THE SECOND TRAIN, CONSISTING OF TWO PASSENGER COACHES, WAS DRIVEN BY J. METCALFE. THE COLLISION OCCURRED AT MALLERSTANG, WHERE THE TWO TRAINS WERE APPROACHING EACH OTHER. THE FIRST TRAIN WAS STOPPED BY THE SIGNALMAN, BUT THE SECOND TRAIN WAS NOT STOPPED IN TIME. THE COLLISION CAUSED THE FIRST TRAIN TO SWAY FROM SIDE TO SIDE, AND SEVERAL COACHES AND THE ENGINE WERE KNOCKED ALONG THE LINE FOR FOUR OR FIVE YARDS. THE COUPLINGS APPARENTLY BEING SEVERED. THE REAR OF THE TRAIN PROTRUDED UNDER A BRIDGE, AND THE RESULT OF THE COLLISION WAS THAT THE TWO LAST COACHES WERE TELESCOPED, AND THE ENGINE REARED ITSELF UP ON THE WRECKAGE. THE COACH FOLLOWING THE ENGINE AND THE TENDER OF THE SECOND TRAIN WERE JAMMED AGAINST IT. THE FRONT COACH MOUNTED THE TENDER.

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WHITLEY, THE GUARD, WHO HAD CHARGE OF THE LEADING TRAIN, HEARD THE APPROACH OF THE SECOND TRAIN IN THE DISTANCE. TAKING A NUMBER OF DETONATORS AND A RED LIGHT HE LAID DOWN THE FORMER ON THE RAILS UNTIL THE SUPPLY WAS EXHAUSTED. THEN HE CONTINUED RUNNING DOWN THE LINE WAVING THE RED LAMP AND BLOWING A WHISTLE. IN THE DISTANCE HE SAW THE LIGHTS OF THE ON-COMING TRAIN, WHICH DASHED PAST HIM.

AS THE COLLISION OCCURRED AN ATTENDANT TO THE FIRST TRAIN RUSHED ALONG A CORRIDOR COACH SHOUTING TO THE PASSENGERS TO LEAVE THE TRAIN. SEVERAL PASSENGERS IN OTHER CARRIAGES



Scene of the Disaster and Remains of Burned Carriage

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WHO LEFT HIM ON THE APPROACH OF THE ON-COMING TRAIN, TO BE KNOWN TO THE DRIVER AND WITNESSED BY THE SIGNALMAN. THE DRIVER OF THE ON-COMING TRAIN WAS KNOWN TO THE SIGNALMAN WHO HEARD THE APPROACH OF THE SECOND TRAIN IN THE DISTANCE. TAKING A NUMBER OF DETONATORS AND A RED LIGHT HE LAID DOWN THE FORMER ON THE RAILS UNTIL THE SUPPLY WAS EXHAUSTED. THEN HE CONTINUED RUNNING DOWN THE LINE WAVING THE RED LAMP AND BLOWING A WHISTLE. IN THE DISTANCE HE SAW THE LIGHTS OF THE ON-COMING TRAIN, WHICH DASHED PAST HIM.

IT IS SUPPOSED THAT THE BURNING COALS WERE SCATTERED FROM THE ENGINE AND FIRED THE WRECKAGE IN FRONT. FOR A TIME THE TRAINS WERE STOPPED, BUT WERE THEN MOVED BY THE WHISTLE SIGNAL.



in order to enable the officials and uninjured passengers to proceed with the work of rescuing the injured people in the wrecked carriages of the first train. The coaches of this train were lighted by gas, with the exception of the sleeping car; but the second train is stated to have been electrically illuminated throughout. The gas lights went out, and the progress of the fire must have been assisted by the gas. Rescuers complain that the crowbars were small and not numerous enough.

Officials speedily turned attention to isolating the wreckage by steaming up the first engine, and drawing the undamaged portion of the front train forward. The engine was then shunted to the other line, and attached to the rear part of the second train, which was drawn back. The engine of the second train remained in the flames the whole time that the vehicles were burning. So fierce was the conflagration that it lighted up the valleys and fells. The seat of the blaze was as near as possible under the bridge, the flames also enveloping the colliding engine. The rescuers were gradually driven away by the fire. Either through the collision or the flames fourteen passengers lost their lives.

Little beyond the steel framework and trucks of the coaches remained, and the breakdown gangs speedily removed the debris to the top of the embankment.

In an interview with a reporter, Driver Candell, who has been in the service of the company since 1876, stated that he knew when he left Carlisle at 1.40, that the other train was only a few minutes in advance. "I observed nothing wrong,"



Nothing Combustible left.

he continued, "until I was almost on top of the other train, but my mate saw a red light. We had been climbing uphill and were going about twenty miles an hour. We ran into the other train with considerable force, and almost immediately the gas fired and two carriages became ignited."

"What about your signals?"—"I did not notice the first signal," he replied, "as I was otherwise engaged. Perhaps it was right; I don't know. My mate was otherwise engaged, too, and did not notice it either."

"Was that the signal at Mallerstang?"—"Yes, and that is about two miles from the next signal at Ais Gill, which was against us, but we were then practically on the other train."

"Did you hear any fog-signals or see a red lamp being waved?"—"No, I did not, but my mate saw a lamp being waved just before we collided, but it was too late to pull up and avert the smash."

Mr. H. K. Beale, solicitor to the Midland Railway Company, attended the opening of the inquest held on Wednesday by the deputy coroner for North Westmorland, and expressed on behalf of the directors and general manager and officials of the company their grief and deep regret, and offered their sympathy with those who had lost friends or relatives, or who had sustained injuries. The company had reason to believe that the whole of those who had lost their lives did so before the fire reached them, and they could only hope that express similar sentiments before the Coroner of the adjoining district, and it was a coincidence hardly credible that the three years ago should be again enacted in similar circum-

stances, that he had decided to hold the investigation in public at five o'clock.

Sir Guy Granet, general manager of the railway, announced in public. Sir Guy added: Such information generally as regards some other points mentioned in the Press, for instance, the quality of the coal used, and so on, I understand have already been furnished to you. So far as I represent the company I shrink no responsibility.

Nicholson, the driver of the first train, gave evidence that the coal was too small for locomotive purposes. He had not complained of this. His engine had not been brought to a standstill on any previous occasion. He went round the engine to oil it before passing Mallerstang. For this work,

When he stopped on the gradient he told the guard he would be there for a few minutes, although he knew it would be five minutes. He spoke to the signman, and at that moment he saw a flare in the distance.

In the five minutes which elapsed before the collision he sent the fireman to try to stop the train. He also tried to start the engine.

## BRAKES ON FAST TRAINS.

THE question of the safety of fast trains has been a subject of much discussion lately, and the recent disaster at Carlisle has brought it to the front of public attention. The question is, whether the brakes on fast trains are sufficient to stop them in time to avoid collisions or other accidents.

The answer to this question is, of course, that the brakes are not sufficient to stop them in time to avoid collisions or other accidents. This is a fact which is well known to all who are conversant with the subject.

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# MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

Sept. 12 (Wed.)	Ottoman Railway Iron Smirna to Adin (Held at Constantinople, Constantinople House, 604 Broad Street, London, E.C. 4.)
Oct. 1 (Wed.)	Canadian Pacific Railway (At the Metropolitan Club, London, W. 1.)

At the meeting of the directors of the Canadian Pacific Railway, held at the Metropolitan Club, London, W. 1, on Wednesday, September 4, 1913, the following business was transacted:—

## WIRRAL RAILWAY COMPANY.

### HALF-YEARLY MEETING, SEPT. 28, 1913, AT THE HOTEL.

The half-yearly general meeting of the Wirral Railway Company was held at the offices of the company, New Brighton Station, on August 28, Mr. T. H. Jackson, chairman of the directors, presiding.

The report showed the net earnings for the half-year to be £7,750, whilst £3,642 was brought forward from the previous half-year. Out of this sum there had been paid:—Interest on debenture loans, £1,827; interest on debenture stock, £2,061; and other interest and commission, £1,148; making a total of £5,036, leaving to be dealt with £2,714. Of this sum the dividends on the preference shares absorbed £5,886, and the directors recommended that the balance of £474 be carried forward.

The CHAIRMAN remarked that though they had been able to pay interest on all the preference shares, they were not in a position to allot any money for dividends. This was not because the railway was losing popularity, but because of higher wages and the heavy expenses on permanent way and the locomotive department. The earnings for the whole year were £32,983, as compared with £32,060 for the previous year. Parcels and goods traffic showed increases of £123 and £370 respectively. Still, comparing with 1911, the earnings per passenger train mile were 3s. 2.40d., against 3s. 1.23d. The earnings per goods train mile were 11s. 1.38d., against 9s. 7.74d. Coal traffic for shipment showed a very large decrease, the figures being 55,837 tons this year, as against 97,271 tons in 1911. This, however, arose owing to goods traffic taking the place of coal as cargo. The increase in the maintenance of the permanent way was due to new rails. Increased traffic expenses were consequent upon the settlement with the men, entailing the employment of more hands and increased wages. Nevertheless the directors were satisfied with the progress of the railway.

The report was adopted.

The CHAIRMAN moved that the dividends on the preference shares, amounting to £5,886, be paid on September 1, and the balance of £474 be carried forward.

The CHAIRMAN made the announcement that, in spite of the fact that it was no longer legally imperative to hold half-yearly meetings, the old custom of having two such meetings every year would be continued.

Stanford and Essendine Railway Company. The meeting of the directors of the Stanford and Essendine Railway Company, held at the Stanford Hotel, Stanford, on Wednesday, September 4, 1913, was presided over by Mr. J. H. Stanford, Chairman of the directors. The following business was transacted:—

Buffalo and Lake Huron Railway. The meeting of the directors of the Buffalo and Lake Huron Railway Company, held at the Buffalo Hotel, Buffalo, on Wednesday, September 4, 1913, was presided over by Mr. J. H. Stanford, Chairman of the directors. The following business was transacted:—

Alderman M. H. Maxwell presided, and a resolution adopting the following resolution was passed:—

Pennsylvania Railroad. On September 4, 1913, the following business was transacted:—

net revenue, after deducting administration expenses, interest on debenture stock and the share of surplus profits due to the shareholders of the company, £25,000, which will necessitate drawing the sum of £21,360 from the amount carried forward as at December 31, 1912, and the balance of £3,640 will be carried forward to the account of the company.

Southern Punjab Railway. The meeting of the directors of the Southern Punjab Railway Company, held at the Southern Punjab Railway Company's Office, Lahore, on September 4, 1913, was presided over by Mr. J. H. Stanford, Chairman of the directors. The following business was transacted:—

## DIVIDEND ANNOUNCEMENTS.

STEWART'S AND LLOYD'S.—An interim dividend for the half-year ended June 30, 1913, of 2½ per cent. on the preferred ordinary shares. A year ago the dividend was at the same rate.

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## GALWAY "ALL-RED" ROUTE CONFERENCE.

Lord Kinnaird presided at a conference of the trans-Atlantic Port Committee held in the Courthouse, Galway, on September 4, 1913. Mr. Robert Worthington, who has been the promoter of the scheme, and Mr. Stephen Gwynn, M.P., were present. It is understood that an agreement was come to with regard to future action in the promotion of the interests of a port at Galway, and that the Midland Great Western Railway Company will be conferred with in regard to certain matters. Although Liverpool and the London and North Western Railway Company are expected to oppose the Bill, it is stated that there is a large portion of the funds are practically already guaranteed, and big Colonial interests are prepared to place on the Atlantic the best steamers afloat for service between Galway and Canada.

Mr. S. Gwynn, M.P., in an interview, has stated that the rival Blackpool Bay scheme will only be on something like a level with Galway if there is a double railway track the miles of Galway. This would be completed. If Ireland is to be brought into this all-red route at all, Galway is the inevitable port of call. The problem will be seriously faced.

Holiday Season Tickets. The following business was transacted:—





## EMPLOYEES' AGITATIONS.

## SUGGESTED LABOUR DEPARTMENT FOR THE N.E.R.

Mr. W. H. Staw, the sales manager at W. Healey & Co., Ltd., the only firm who in the North Eastern Railway Company employ a woman, has been elected president of the Labour Prevention of Discontent, and his chief point was that social unrest was due to the apathy and indifference of the Churches. He advocates the formation of a labour department on the North Eastern railway.

At a meeting of North Eastern railwaymen on Teeside, held on Sunday at Stockton, a resolution was passed calling for an eight-hour day and higher wages for the lower-paid men on the system. Mr. Walter Hudson, M.P., who was present, declared that if the men were unanimous in their request they would get an eight-hour day from the North Eastern.

On Sunday, at a meeting of nearly 1,000 railwaymen at Peterborough, it was proposed by the local executive that the men should cease work if certain grievances connected with the strike of engineers at the Great Northern foundry works were not immediately removed. It was agreed first to call upon the executive of the National Railwaymen's Union to endeavour by a deputation to get the grievances removed. If this result was not achieved by Wednesday last the executive were asked to take steps to bring about a national stoppage.

On the initiative of the National Amalgamated Union of Enginemen, Firemen and Electrical Workers, and with a view to an amalgamation of the various unions catering for engine-men and firemen, a conference of 12 of these bodies is to be called shortly to discuss ways and means. As soon as the scheme of amalgamation is completed it is intended to initiate a forward movement for the leveling-up of wages throughout the industry.

Meetings are being held in Crewe to organise the railway servants, and at a meeting last week a resolution was passed in favour of a thirty shillings a week minimum wage. Mr. Moffat, organising secretary of the National Union of Railwaymen of Birmingham, urged the men to force their demands, and to "Damn law and order." In referring to the Knox case, he declared that he was prepared to strike for the right to get drunk!

Platelayers in the employ of the London and North Western Railway in the Liverpool district are demanding an increase of 3s. a week. The company has promised to give every consideration to the representation put forward, but the men threaten that if the increase is not granted forthwith they will decline to undertake any special work, such as fog and flag signalling, and attending to breakdowns.

The Midland railway clerks in Bradford, in accordance with the decision of a general delegate meeting held at Derby in June last, have forwarded an appeal to the directors for a revised scale, commencing at the age of sixteen with a salary of £30 and rising by annual increments to a minimum of £150 at the age of thirty-seven.

Cardiff branch of the Railway Clerks' Association has discussed the question of salaries on the Great Western and North Western Railways. Disappointment was expressed at the refusal of the former company to do anything further in the matter. It was decided to hold a mass meeting of railway clerks at Cardiff on November 26.

The railway clerical workers in Wigan and district, representing all grades of the London and North Western, Lancashire and Yorkshire, and the Great Central Railway Companies, "having regard to the continued increase in the cost of living, and to the fact that the Railway and Canal Traffic Act, 1913, is intended to improve the position of all sections of their staff," have called upon the companies to grant the unified scale of pay as asked for by the clerical staffs in their recent memorials. They urge the salaries committees of the Railway Clerks' Association to press forward with a view to securing the institution of the scale.

At a meeting of the Carlisle branch of the Railway Clerks'

Association it was reported that the Maryport and Carlisle Railway Company had agreed to pay a pension of £280 per annum after eleven years' service. This was considered a very liberal offer.

and stationmasters, who are the men who feel most nearly the increased cost of living, and in view of the high rate of dividend paid by the Maryport and Carlisle Company, the hope was expressed that the directors would extend the scale to benefit the senior clerks and stationmasters.

Barry Railway struck on Monday for increased wages. Nevertheless, passenger and mineral traffic continued as usual. The local officials of the Railwaymen's Union have repudiated the strike.

that unless agreements between masters and men are adhered to, the interests and safety of industries will suffer. The Barry Railway Company was the first to adopt the principle of conciliation boards, and the existing agreement with the men holds good until December 31st, 1914. This agreement fixed the wages of the brakemen at 22s. per week, rising to 24s. in 1915.

## NEW AND PROSPECTIVE RAILWAY SCHEMES.

The date has been fixed for beginning the construction of the railway from Blacksod Bay to Collooney Junction to connect with the Sligo and Enniskillen and Great Northern Railway to Belfast, in connection with the proposed new service to America from the West Coast of Ireland. The contractors will make a start during the present month, and the work will be pushed on with all speed.

The officials of the North British Railway Company have been surveying the ground between the main line near Leith and the St. Andrew's branch line near Guardbridge in connection with the proposal to have the junction for St. Andrew's at Cupar. The matter, however, will not be finally decided upon until the October meeting of the directors.

The technical commission for studying the junction line between the Syrian and Egyptian Railways left Constantinople for Syria on Monday last.

## RUSSIAN PROPOSALS.

It is reported that the Russian Budget for 1914 will provide for the construction of railway lines in European Russia to the extent of 2,175 versts, and that the survey of the new route from Odessa to Vienna is to be taken in hand immediately.

A proposal is before the French Government for a loan of 175,000,000 francs for the construction of railways in the harbours, waterways, and wireless and ordinary telegraph systems.

## G.E.R. PROVIDENT SOCIETY.

At the half-yearly meeting of the Great Eastern Railway Provident Society held on August 26th at the Liverpool Street Hotel, the Committee of Management reported that £3,500 had been drawn from the Company's Guarantee Fund during the half-year. The Company subscribes £100 per annum, and the whole reserve of the society has amounted to £100,000.

benefits. The quinquennial valuation, dated 1st July 1913, disclosed a deficiency of £42,407, and the company had agreed to contribute £10,000 towards the deficit.

chief cause of the deficiency. Some 700 members, mostly pensioners, require to be provided for, and various economies in management are proposed.

Welsh Coal Prices and Russian Effects. The price of Welsh coal has risen since the Russian war broke out on prices for expiring Russian railway contracts.





# RAILWAY NOTES.

**Underground to Brazil.**—A project for an underground railway from Rio de Janeiro to the suburbs of Cotia, with the centre of Rio.

**The Lötschberg Tunnel.**—The trouble that has arisen in the newly opened Lötschberg Electric Railway in the Alps is stated to be due to the fact that the railway is not yet ready for the services have been abandoned pending preventive works, which cannot be done during the day.

**Land Values.**—The railway companies are seeking to purchase it. In the case of the Tickhill Light Railway, in Yorkshire, now under construction by the Great Northern Railway, £20,032 was claimed for five acres, but the price was reduced to £10,000.

**The Extension of the Brighton Company's Suburban Electrification.**—As already reported in our columns, Messrs. Blackwell and Co. have begun the electrification of the Balham and Croydon section of the Brighton Railway. It is expected that the full electrification scheme as far as Epsom will be completed in 1914.

**Request for a Longer Excursion Season.**—The Skegness Railway Facilities Committee has approached the Great Northern Railway with the object of securing an extension of excursion and other train services to the end of September, or even to the second week in October. It is pointed out that many people would like to spend the season at the seaside.

**Railway Facilities at Huddersfield.**—The Huddersfield Chamber of Commerce is still negotiating with the railway company for improvements in the goods traffic are promised. It is proposed to make room at the Hillhouse sidings for 50 or 60 more trucks and to assemble wagons at Wiggle in order to relieve the congestion at Hillhouse.

**The Tottenham Collision.**—At the Board of Trade inquiry into the collision on the Great Eastern Railway between a passenger train and goods train, which occurred during the fog on the night of August 29 last, the driver of the passenger train said he saw the distance signal at Clapton Junction in the "off" position, but Col. von Donop observed that he had strong evidence that the signal was not in the "off" position.

**Sale of Return Tickets.**—Efforts are being made to put an end to the large extent at seaside resorts. In a prosecution at Ramsgate it was stated that the South Eastern and Chatham Company lost large sums of money through the transfer and improper sale of tickets, and, to detect offenders, from 30 to 50 men travelled day by day on each train.

**From Wales to the North.**—In reply to representations made by the Carmarthen Chamber of Commerce to the London and North Western Railway Company as to the great inconvenience and long delay of the present service of trains from Carmarthen to the North, the Chamber have received a communication from the Swansea superintendent to the effect that a new service will be arranged in October, and that the representation will be considered.

**The late Queen Victoria and the Braemar Railway Scheme.**—The revived proposal for the construction of the Braemar Railway is meeting with local opposition. It is pointed out that it can never be a commercial success in view of the restrictions on building operations at Braemar. Years ago the Great North of Scotland Railway Company planned a railway to Braemar, but abandoned it after a mile and a half of track had been laid.

**Towards the enterprise.**

**The G.T.P. and the National Transcontinental Railway.**—A hitch has occurred between the Canadian Government and the Grand Trunk Pacific Railway Company in regard to the carrying out of the agreement as to the operation of the National Transcontinental by the company. The line from Winnipeg to Cochrane is now practically completed, and the Government desires the Grand Trunk Pacific Company to take it over on lease this year.

**Pan-American Railway.**—The survey of the Honduras section of the line is now in progress. The concessional rights are to be transferred to the International Railways of Central America. Funds for the construction of the line are to be furnished by American, English, French, and Belgian capitalists. Work will probably be commenced in the department of San Miguel, Republic of Honduras.

## OBITUARY.

**Mr. John Morrison**, formerly accountant on the Great North of Scotland Railway, died at his residence, 10, St. Andrew's Road, Edinburgh, on August 29, at the age of 62.

**Mr. William Jones**, of Westernmoor, Neath, contractor, who was employed on the Rhondda and Swansea Bay Railway.

**Mr. William Boyce**, goods agent at Darwen for the Lancashire and Yorkshire Railway, died at his residence, 10, St. Andrew's Road, Edinburgh, on August 29, at the age of 59, whilst on a holiday. Mr. Boyce had been associated with the railway company since boyhood. Before going to Darwen to act as goods agent he had held office in the company for many years. He was a member of the Darwen Literary Society and played an active part in the formation of the local Railway Ambulance Corps.

## BANK RETURN.

The return of the Bank of England for the week ended Wednesday, September 3, compared with that for the previous week, shows the following changes:—

STATE OF BANKING DEPARTMENT.		Sept. 3, 1913.	
£	Liabilities	£	Assets
3,672,000	Reserve	3,668,054	
15,896,771	Public Deposits	15,896,771	
47,116,110	Other	44,565,304	140,944
16,111	7 Day Bill	11,650	
13,367,655	Govt. Securities	12,463,405	Decrease
30,113	Other	49,187	Increase
1,234,289	Gold and Silver	30,757,105	
		29,163,415	
ISSUE DEPARTMENT.		Sept. 3, 1913.	
£	Coin and Ballion	£	Assets
40,937,840	Notes issued	41,690,840	194,755
	Reserve	29,248,970	194,755
		29,163,415	214,445

## PEARL ASSURANCE COMPANY, LTD.

Capital £1,000,000  
 Paid-up £250,000  
 Reserve £14,000,000  
 Total £14,250,000

Works: Works, Birmingham  
 The H. J. Peckett & Co. Ltd.  
**PECKETT'S LOCOMOTIVES**  
 BUILDERS OF  
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**MIDLAND**  
 RAILWAY CARRIAGE & WAGON CO., LTD.,  
 Builders of  
 RAILWAY CARRIAGES,  
 RAILWAY WAGONS,  
 TRAMWAY CARS,  
 and every description of Rolling Stock.  
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 and Abbey Works, Shrewsbury.

## RAILWAY STOCK AND SHARE LIST

### HOME RAILWAY ORDINARY STOCKS.

CLOSING PRICES.			CLOSING PRICES.			CLOSING PRICES.			CLOSING PRICES.			
YESTERDAY.	LAST WEEK.	A YEAR AGO.	YESTERDAY.	LAST WEEK.	A YEAR AGO.	YESTERDAY.	LAST WEEK.	A YEAR AGO.	YESTERDAY.	LAST WEEK.	A YEAR AGO.	
Barry, Ord.	167 1/2	167 1/2	148 1/2	152	152	London, Chat. & Dover, Arbit. Ord.	1919	1838	1896	1876	224 1/2	20 1/2
Do. Def. Conv. Ord. (4%)	90 1/2	89 1/2	70 1/2	81	81	London and North Western, Cons.	1314	1304 1/2	151	151 1/2	145 1/2	154 1/2
Do. Def. Conv. Ord.	90 1/2	89 1/2	70 1/2	81	81	London and South Western, Cons.	116	118	116	118	124 1/2	125 1/2
Cardiff, Ord.	74 1/2	75 1/2	70 1/2	81	81	Do. Def. Conv. Ord.	81 1/2	82 1/2	81 1/2	82 1/2	85 1/2	85 1/2
Do. Def. Conv. Ord. (3%)	56 1/2	56 1/2	50 1/2	60 1/2	60 1/2	Do. Def. Conv. Ord.	53 1/2	54 1/2	54 1/2	54 1/2	56 1/2	56 1/2
Do. Def. Conv. Ord.	194 1/2	193 1/2	20 1/2	20 1/2	20 1/2	Mersey, Cons. Ord.	6	6	6	6	6	6
Do. Def. Ord., No. 1.	78 1/2	78 1/2	118 1/2	118 1/2	118 1/2	Metropolitan, Cons.	47 1/2	47 1/2	48	49 1/2	60 1/2	51 1/2
Cardiff, Ord., 1st Class.	112 1/2	112 1/2	21 1/2	21 1/2	21 1/2	Do. Surplus Lands Stock.	53	61	60	62	64	64
Do. Def. Conv. Ord.	75 1/2	75 1/2	70 1/2	81	81	Metropolitan District, Ord.	53 1/2	55	53 1/2	55 1/2	57 1/2	42 1/2
Cardiff, 1st Class, 1st Class.	112 1/2	112 1/2	21 1/2	21 1/2	21 1/2	Midland, Def. Conv. Ord. (3%)	57 1/2	58	57 1/2	58 1/2	80	60 1/2
Do. Def. (4%)	77 1/2	77 1/2	81 1/2	81 1/2	81 1/2	Do. Def. Conv. Ord.	72 1/2	72 1/2	73	73 1/2	70 1/2	70 1/2
Do. Def.	75 1/2	75 1/2	70 1/2	70 1/2	70 1/2	North British, Ord. Pref. (3%)	61 1/2	61 1/2	61 1/2	61 1/2	55 1/2	61
City & South London, Cons. Ord.	75 1/2	75 1/2	70 1/2	70 1/2	70 1/2	Do. Def. Conv. Ord.	2 1/2	2 1/2	2 1/2	2 1/2	23 1/2	23 1/2
East London, Ord.	75 1/2	75 1/2	70 1/2	70 1/2	70 1/2	N. Cornwall (L.&H.) & Def. Ord.	87	87	87	87	81	81
Furness, Cons. Ord.	36 1/2	35 1/2	44 1/2	44 1/2	44 1/2	Do. Def. Ord.	66	71	66	71	71	71
Gloucester & N. Western, Def. Ord.	35 1/2	35 1/2	50 1/2	50 1/2	50 1/2	North Eastern "Cons."	120	121	120 1/2	121 1/2	125 1/2	124 1/2
Do. Def. Ord.	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2	North London, Cons.	88	91	83	91	91	102 1/2
Great Eastern, Cons. Pref. Ord. (6%)	140 1/2	140 1/2	140 1/2	140 1/2	140 1/2	North Staffordshire, Cons. Ord.	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2
Do. Def. Ord.	140 1/2	140 1/2	140 1/2	140 1/2	140 1/2	Plymouth Devon & S.W. Jan., Or.	44	47	44	47	50	53
Great Eastern, Ord.	51 1/2	51 1/2	50 1/2	50 1/2	50 1/2	Port Railway Railways and Docks	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Great N. of Scotland, Pl. Conv. Ord.	35 1/2	35 1/2	50 1/2	50 1/2	50 1/2	Ripon and Swains Bay	10	11 1/2	10 1/2	11 1/2	11 1/2	11 1/2
Do. Def. Conv. Ord.	18 1/2	18 1/2	18 1/2	18 1/2	18 1/2	Ryngny, Cons. Ord. Cap. Stock	163	175	163	175	168 1/2	175
Great Northern, Pref. Conv. Ord.	82 1/2	82 1/2	82 1/2	82 1/2	82 1/2	Do. Def. Ord. (4%)	73	87	73	87	87	85
Do. Def. Conv. Ord.	52 1/2	52 1/2	50 1/2	50 1/2	50 1/2	Do. Def. Ord.	90	95	92	97	81	83 1/2
Do. Conv. A.	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	Sheffield & District, 210 Shares	4	4 1/2	4	4 1/2	4 1/2	4 1/2
Do. Conv. B.	124 1/2	124 1/2	124 1/2	124 1/2	124 1/2	South Eastern, Ord.	83	83	86	83	84	84
Great North & City Pref. Ord. (4%)	113 1/2	113 1/2	113 1/2	113 1/2	113 1/2	Do. Def. Ord.	115	114 1/2	115	114 1/2	119	121 1/2
Great Western, Cons. Ord.	113 1/2	113 1/2	113 1/2	113 1/2	113 1/2	Do. Def.	59	60 1/2	60 1/2	60 1/2	62 1/2	63
Hawthorn, Ord. Cap. Stock	36 1/2	36 1/2	41 1/2	41 1/2	41 1/2	Stratford & Mid. Jung. Cons. Ord.	35	38	35	38	38	38
Hull and Barnsley, Cons. Ord.	65 1/2	65 1/2	65 1/2	65 1/2	65 1/2	Taff Vale, Ord.	71 1/2	72 1/2	71 1/2	72 1/2	72 1/2	73 1/2
Do. Def. Conv. Ord. (4%)	70 1/2	70 1/2	70 1/2	70 1/2	70 1/2	Vale of Glamorgan, Ord.	85	85	85	88	83	82
Do. Def. Conv. Ord.	36 1/2	36 1/2	36 1/2	36 1/2	36 1/2							
Leam. and York, Cons. Ord.	105 1/2	105 1/2	105 1/2	105 1/2	105 1/2							
London, Brighton & S. Coast, Ord.	105 1/2	105 1/2	105 1/2	105 1/2	105 1/2							
Do. Def. Conv. Ord.	122 1/2	122 1/2	122 1/2	122 1/2	122 1/2							
Do. Def. Conv. Ord.	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2							
Do. Def. Conv. Ord.												

### Debenture Stocks

[illegible]

## Debenture Stocks (continued)

Common Stocks.	
North Carolina	10 1/2
South Carolina	11 1/2
Virginia	11 1/2
Georgia	11 1/2
Florida	11 1/2
Alabama	11 1/2
Mississippi	11 1/2
Louisiana	11 1/2
Texas	11 1/2
Oklahoma	11 1/2
Arkansas	11 1/2
Missouri	11 1/2
Illinois	11 1/2
Indiana	11 1/2
Ohio	11 1/2
Michigan	11 1/2
Wisconsin	11 1/2
Minnesota	11 1/2
Nebraska	11 1/2
Kansas	11 1/2
Colorado	11 1/2
Idaho	11 1/2
Montana	11 1/2
Wyoming	11 1/2
Utah	11 1/2
Nevada	11 1/2
Arizona	11 1/2
New Mexico	11 1/2
California	11 1/2
Oregon	11 1/2
Washington	11 1/2
Alaska	11 1/2
Hawaii	11 1/2
Foreign	11 1/2
Total	11 1/2

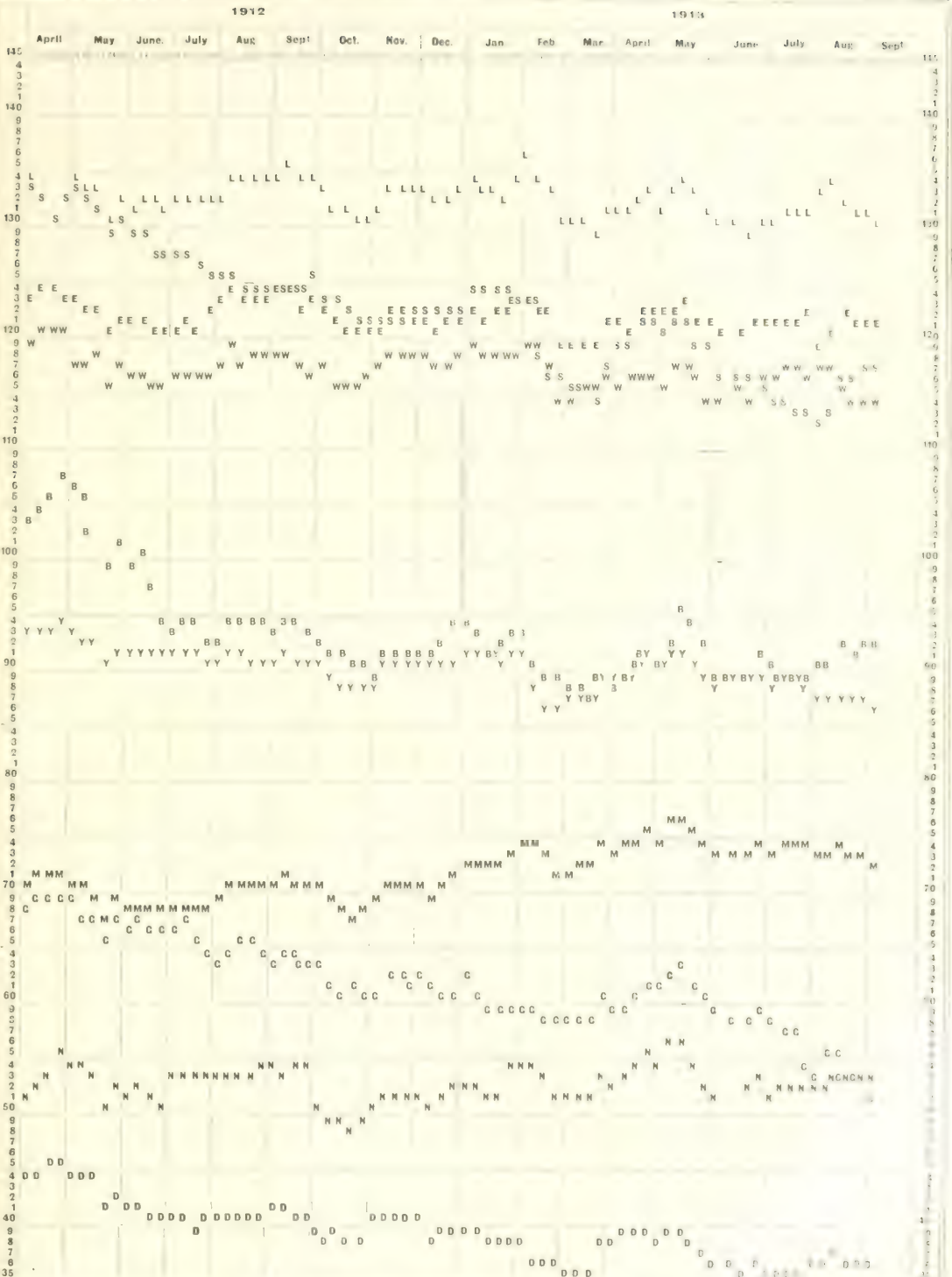
Preference Stocks.	
Atlantic Coast	95
Rocky Mountain	117
Great Northern	95
Chicago & North Western	95
Illinois Central	95
Missouri Pacific	95
St. Louis & San Francisco	95
Union Pacific	95
Wells Fargo	95
Western Union	95
Telegraph & Telephone	95
Radio & Television	95
Gas & Electric	95
Water & Sewerage	95
Insurance	95
Banking	95
Finance	95
Real Estate	95
Transportation	95
Communication	95
Manufacturing	95
Retail	95
Food & Beverage	95
Pharmaceutical	95
Chemical	95
Textile	95
Apparel	95
Automotive	95
Aerospace	95
Defense	95
Energy	95
Utilities	95
Healthcare	95
Technology	95
Media	95
Telecommunications	95
Internet	95
Software	95
Hardware	95
Electronics	95
Machinery	95
Transportation	95
Construction	95
Engineering	95
Architecture	95
Law	95
Accounting	95
Consulting	95
Advertising	95
Public Relations	95
Government	95
Non-Profit	95
Total	95

### Preference Stocks—

(continued).

[illegible]

Unalutsk E. C. Ryd. of London		
4 1/2 hours of the . . . . .	93	101
5 1/2 hours of the . . . . .	159	111
6 1/2 hours of the . . . . .	91	92



B—London, Brighton & South Coast, Div. D—Dover & East Kent, Div. E—North Eastern, Div. L—London & North-Western, Cons. M—Midland, Div. W—Great Western, Cons. Y—Lancashire & Yorkshire, Cons.

THE PRICES OF SOME HOME RAILWAY STOCKS April 3, 1912—September 5, 1913.



## RAILWAY STOCK AND SHARE LIST.

### Colonial Railways.

### Foreign Railways.

[illegible]

# OFFICIAL TRAFFIC RETURNS.

<b>Barry.</b> Week ending August 31 1913. 1912. Total for week ..... £12,133 £12,133 Aggregate for 35 weeks ..... £568,465 £568,465 Goods, etc. .... 65 65 Miles open ..... 11,114 11,114 Inc. this week £1,114 Inc. 35 weeks, £11,114		
<b>Caledonian.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £26,720 £25,200 Goods, etc. .... 12,228 12,228 Total for week ..... £38,948 £37,428 Aggregate for 35 weeks ..... £1,441,600 £1,441,600 Miles open ..... 11,114 11,114 Inc. this week, £3,228 Inc. 35 weeks, £11,114		
<b>Cambrian.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £2,111 £2,111 Goods, etc. .... 1,111 1,111 Total for week ..... £3,222 £3,222 Aggregate for 35 weeks ..... £1,111,111 £1,111,111 Miles open ..... 1,111 1,111 Inc. this week, £3,222 Inc. 35 weeks, £11,111		
<b>Central London.</b> Week ending August 31 1913. 1912. Total for week ..... £1,111 £1,111 Aggregate for 35 weeks ..... £1,111,111 £1,111,111 Miles open ..... 1,111 1,111 Inc. this week, £1,111 Inc. 35 weeks, £11,111		
<b>City and South London.</b> Week ending August 31 1913. 1912. Total for week ..... £1,111 £1,111 Aggregate for 35 weeks ..... £1,111,111 £1,111,111 Miles open ..... 1,111 1,111 Inc. this week, £1,111 Inc. 35 weeks, £11,111		
<b>Dublin and South Eastern.</b> Week ending August 29 1913. 1912. Passengers, etc. .... £3,202 £3,202 Goods, etc. .... 1,111 1,111 Total for week ..... £4,313 £4,313 Aggregate for 35 weeks ..... £1,111,111 £1,111,111 Miles open ..... 160 160 Inc. this week, £1,102 Inc. 35 weeks, £3,356		
<b>Furness.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £4,801 £4,279 Goods, etc. .... 8,058 8,208 Total for week ..... £12,859 £12,487 Aggregate for 35 weeks ..... £420,271 £420,271 Miles open ..... 153 153 Inc. this week, £372 Inc. 35 weeks, £57,108		
<b>Glasgow and South Western.</b> Week ending August 30 1913. 1912. Passengers, etc. .... £2,000 £2,000 Goods, etc. .... 25,000 22,000 Total for week ..... £27,000 £24,000 Aggregate for 35 weeks ..... £1,353,400 £1,229,500 Miles open ..... 470 470 Inc. this week, £2,000 Inc. 35 weeks, £103,900		
<b>Great Central.</b> Week ending August 30 1913. 1912. Passengers, etc. .... £1,111 £1,111 Goods, etc. .... 75,100 75,100 G.C. proportion of Joint Lines ..... £21,400 Total for week ..... £127,700 £127,700 Aggregate for 35 weeks ..... £3,997,100 £3,997,100 Miles open ..... 1,111 1,111 Inc. this week, £5,800 Inc. 35 weeks, £554,700		
<b>Great Eastern.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £82,000 £82,000 Goods, etc. .... 1,111 1,111 Total for week ..... £83,111 £83,111 Aggregate for 35 weeks ..... £3,896,400 £3,896,400 Miles open ..... 1,111 1,111 Inc. this week, £8,000 Inc. 35 weeks, £554,700		
<b>Great Northern.</b> Week ending August 30 1913. 1912. Passengers, etc. .... £13,500 £13,500 Goods, etc. .... 75,600 75,600 Total for week ..... £89,100 £89,100 Aggregate for 35 weeks ..... £4,412,400 £4,412,400 Miles open ..... 1,111 1,111 Inc. this week, £13,500 Inc. 35 weeks, £4,412,400		
<b>Groat Northern (Ireland).</b> Week ending August 31 1913. 1912. Passengers, etc. .... £1,111 £1,111 Goods, etc. .... 1,111 1,111 Total for week ..... £2,222 £2,222 Aggregate for 35 weeks ..... £764,762 £764,762 Miles open ..... 1,111 1,111 Inc. this week, £1,111 Inc. 35 weeks, £764,762		
<b>Groat North of Scotland.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £5,340 £5,340 Goods, etc. .... 4,950 4,950 Total for week ..... £10,290 £10,290 Aggregate for 35 weeks ..... £358,111 £358,111 Miles open ..... 1,111 1,111 Inc. this week, £10,290 Inc. 35 weeks, £358,111		
<b>Groat Southern and Western.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £21,433 £19,084 Goods, etc. .... 1,111 1,111 Total for week ..... £22,544 £20,195 Aggregate for 35 weeks ..... £764,762 £764,762 Miles open ..... 1,111 1,111 Inc. this week, £22,544 Inc. 35 weeks, £764,762		
<b>Great Western.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £1,111 £1,111 Goods, etc. .... 1,111 1,111 Total for week ..... £2,222 £2,222 Aggregate for 35 weeks ..... £764,762 £764,762 Miles open ..... 1,111 1,111 Inc. this week, £1,111 Inc. 35 weeks, £764,762		
<b>Highland.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £12,599 £12,418 Goods, etc. .... 1,111 1,111 Total for week ..... £13,710 £13,529 Aggregate for 35 weeks ..... £470,271 £470,271 Miles open ..... 153 153 Inc. this week, £252 Inc. 35 weeks, £28,816		
<b>Hull and Barnsley.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £1,111 £1,111 Goods, etc. .... 1,111 1,111 Total for week ..... £2,222 £2,222 Aggregate for 35 weeks ..... £764,762 £764,762 Miles open ..... 1,111 1,111 Inc. this week, £1,111 Inc. 35 weeks, £764,762		
<b>Lancashire and Yorkshire.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £80,000 £80,000 Goods, etc. .... 69,400 69,125 Total for week ..... £149,400 £149,125 Aggregate for 35 weeks ..... £4,412,400 £4,412,400 Miles open ..... 597 597 Inc. this week, £4,268 Inc. 35 weeks, £264,834		
<b>London, Brighton and South Coast.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £59,897 £59,897 Goods, etc. .... 15,188 15,014 Total for week ..... £75,085 £74,911 Aggregate for 35 weeks ..... £2,503,164 £2,503,164 Miles open ..... 1,111 1,111 Inc. this week, £75,085 Inc. 35 weeks, £2,503,164		
<b>London Electric.</b> Week ending August 30 1913. 1912. Total for week ..... £477,875 £474,380 Aggregate for 35 weeks ..... £16,495 £16,495 Inc. this week, £477,875 Inc. 35 weeks, £16,495		
<b>London and North Western.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £193,000 £193,000 Goods, etc. .... 175,000 182,000 Total for week ..... £368,000 £375,000 Aggregate for 35 weeks ..... £10,842,000 £10,992,000 Miles open ..... 1,111 1,111 Inc. 35 weeks, £850,000		
<b>London and South Western.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £91,600 £91,600 Goods, etc. .... 55,300 53,800 Total for week ..... £146,900 £145,400 Aggregate for 35 weeks ..... £5,273,300 £5,388,400 Miles open ..... 967 967 Inc. 35 weeks, £5,273,300		
<b>Metropolitan.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £1,111 £1,111 Goods, etc. .... 1,111 1,111 Total for week ..... £2,222 £2,222 Aggregate for 35 weeks ..... £764,762 £764,762 Miles open ..... 1,111 1,111 Inc. this week, £1,111 Inc. 35 weeks, £764,762		
<b>Metropolitan District.</b> Week ending August 30 1913. 1912. Passengers, etc. .... £453,397 £453,397 Goods, etc. .... 1,111 1,111 Total for week ..... £454,508 £454,508 Aggregate for 35 weeks ..... £15,827,111 £15,827,111 Miles open ..... 1,111 1,111 Inc. 35 weeks, £15,827,111		
<b>Midland.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £113,000 £109,000 Goods, etc. .... 5,697 5,697 Total for week ..... £118,697 £114,697 Aggregate for 35 weeks ..... £3,930,000 £3,825,000 Miles open ..... 1,582 1,582 Inc. 35 weeks, £1,582		
<b>Midland Great Western of Ireland.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £7,505 £7,212 Goods, etc. .... 5,153 5,153 Total for week ..... £12,658 £12,365 Aggregate for 35 weeks ..... £437,459 £410,376 Miles open ..... 558 558 Inc. 35 weeks, £437,459		
<b>North British.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £50,800 £50,800 Goods, etc. .... 62,800 61,300 Total for week ..... £113,600 £112,100 Aggregate for 35 weeks ..... £3,413,000 £3,357,700 Miles open ..... 1,285 1,285 Inc. this week, £4,100 Inc. 35 weeks, £277,500		
<b>North Eastern.</b> Week ending August 30 1913. 1912. Passengers, etc. .... £1,111 £1,111 Goods, etc. .... 143,695 146,300 Total for week ..... £144,806 £147,411 Aggregate for 35 weeks ..... £7,577,131 £7,529,355 Miles open ..... 1,111 1,111 Inc. 35 weeks, £7,577,131		
<b>North London.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £3,400 £3,765 Goods, etc. .... 5,000 5,000 Total for week ..... £8,400 £8,765 Aggregate for 35 weeks ..... £287,103 £289,295 Miles open ..... 152 152 Inc. 35 weeks, £6,908		
<b>North Staffordshire.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £6,400 £6,400 Goods, etc. .... 15,100 15,420 Total for week ..... £21,500 £21,820 Aggregate for 35 weeks ..... £709,160 £705,630 Miles open ..... 1,111 1,111 Inc. this week, £280 Inc. 35 weeks, £45,630		
<b>Rhymney.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £1,111 £1,111 Goods, etc. .... 1,111 1,111 Total for week ..... £2,222 £2,222 Aggregate for 35 weeks ..... £764,762 £764,762 Miles open ..... 1,111 1,111 Inc. this week, £1,111 Inc. 35 weeks, £764,762		
<b>South Eastern and Chatham.</b> Week ending August 30 1913. 1912. Passengers, etc. .... £1,111 £1,111 Goods, etc. .... 23,000 23,111 Total for week ..... £24,122 £24,222 Aggregate for 35 weeks ..... £830,000 £830,000 Miles open ..... 654 654 Inc. 35 weeks, £830,000		
<b>Taff Vale.</b> Week ending August 31 1913. 1912. Passengers, etc. .... £1,111 £1,111 Goods, etc. .... 1,111 1,111 Total for week ..... £2,222 £2,222 Aggregate for 35 weeks ..... £764,762 £764,762 Miles open ..... 1,111 1,111 Inc. this week, £1,111 Inc. 35 weeks, £764,762		

NOTES AND EXPLANATIONS.—The figures in the above table are the actual returns for the week ending August 31, 1913, and for the corresponding week in 1912. The figures for the aggregate for 35 weeks are the totals for the 35 weeks ending August 31, 1913, and for the corresponding 35 weeks in 1912. The figures for the miles open are the total miles open for the week ending August 31, 1913, and for the corresponding week in 1912. The figures for the income for the week ending August 31, 1913, and for the corresponding week in 1912, are the totals for the week ending August 31, 1913, and for the corresponding week in 1912. The figures for the income for the 35 weeks ending August 31, 1913, and for the corresponding 35 weeks in 1912, are the totals for the 35 weeks ending August 31, 1913, and for the corresponding 35 weeks in 1912.



\* Including North West.



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ACID SIEMENS STEEL LOCOMOTIVE CARRIAGE AND  
WAGON TYRES AND AXLES OF HIGHEST GRADE





# The Railway Times

A Journal of Finance, Construction, and Operation.

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SATURDAY, SEPTEMBER 13, 1913.

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## PRINCIPAL CONTENTS.

## HOME RAILS AND INVESTMENT.

Since the early years of Home Railways investment, the general trend of the movement has been downward. For this class of investment have, with some few intermissions, tended continuously downward. From 1868 to 1905 the fall was precipitous, and since the latter year, although there have been seasons when a rising tendency prevailed, declines have nevertheless predominated. The movement has, of course, been to some extent no more than the natural consequence of loanable capital becoming scarcer and dearer, and to this extent it is a movement that has been common to the shares of all commercial and industrial companies whose field of operation is in this country. When investors are being offered five per cent. or more on good security by foreign governments and corporations, it is not to be expected that they will continue to maintain Home Rails or any other domestic stock at a price which yields only 3½ per cent. to the holder. Considerations such as these suffice to account for a great deal of the decline in price which has befallen British Railway securities since 1898, and until recently they have generally been accepted as sufficient to account for the whole. It is now becoming at least doubtful whether such an explanation more than partially accounts for the change, particularly that portion of it which has taken place since 1905. The following year saw the advent of the Liberals to power in this country, and the inauguration of a new policy in domestic affairs. Another doctrine of political economy as applied to the control of labour and taxation came into vogue, and it is difficult to dissociate this change from the fact that since that time two periods of commercial and industrial expansion—that which culminated in 1907 and that now at the zenith—have failed to raise to any appreciable extent the estimation in which Home Rails are held by investors. The fact is that the change seen in the political atmosphere has had its counterpart in the mind of the investor. The latter is indeed as great as the former, though not so easily recognised because of the slowness and imperceptible character of its growth, and because, moreover, it is to the interest of no one to blazon it abroad, as is the case with all changes or modifications in the political atmosphere, however slight they may be. It is not so long ago when it was a favourable statement to make of any man that he had a stake in the country, and everyone desired so to invest his own capital that such a statement might apply to himself. Hence the popularity of land as a form of investment, and also the favour in which the stocks of British Railways were held. Our fathers were pleased if the capital from which their incomes were derived was sunk in buildings and the permanent-way of railways, for, as they justly observed, such things "cannot run away." By this they meant that though markets might err and trade undergo fluctuation, the bricks in the mortar, the rails and ties would remain to become capital again in the form of investment which can run away for circulating

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capital rather than fixed capital, for investments in the sort of goods which make up the financier's stock-in-trade, or for something already run away and now fixed abroad in the form of a foreign investment. Experience has taught that fixed capital as exemplified in land buildings, breweries, railways, etc., is particularly open to attack by the exactions of the tax gatherer and the encroachments of labour. A stake in the country therefore is not sought by those who fear the future activities of either, and the number who fear is increasing. If this condition of things continues investors will soon adopt the preferences which characterised Jews during the Middle Ages. The Jews being particularly subject to the extortions of governments and those in authority by way of taxation and dues, were therefore very chary of having fixed property of any kind, preferring to deal in goods easily removed, such as gold and silver and precious stones, and, above all, bills of exchange. It has never been thought that such preferences were a benefit to the country where they were exercised, and if investors generally come to favour purely financial enterprises at the expense of manufacture and transport, it will certainly bring no advantage to the working man or to Ministries which ostentatiously lay themselves out to please him.

### OPPORTUNITIES FOR ADVANCEMENT.

Personal character is more necessary on railways than in most other callings. At any time even the humblest of a company's servants may be called upon to exercise presence of mind and resource whereby accidents may be averted and emergencies dealt with. Take the case of a boy in a signal cabin. The signaller may become suddenly incapacitated, or may wish to send his lad with a verbal, urgent message on the safe and correct delivery of which much may depend. A probationer booking clerk at a wayside station, if an accident happens in its vicinity to which the station inspector and porter have had to rush, may have to take charge for a time, and may be called upon to use all the wits he possesses to provide for the reception of sick and wounded, to forward medical assistance, and generally to carry out the duties which ordinarily fall to several men. These are extreme but not unlikely cases, and it is of such lads as pass with credit through troublous times that the right sort of railway men are made. The career of one who has certainly missed his vocation is an example of the wrong sort of recruit for a railway. He writes to an English university magazine complaining that, after six years' climbing from the bottom of the ladder he has only attained to £200 a year (all told) as a junior assistant to a goods manager. We should consider he was overpaid, for he starts in a London goods station as a fortnight-old B.A., who has taken honours in natural science, and begins by averring that "at heart every undergraduate is a snob, and it is only after he is cast out into the world to fend for himself that he realises his own insignificance." He is indignant, too, at having been sent for a stamp and pokes fun at his superior for his pronunciation. Of different mettle are two apprentices from the Gordon Shops on the Great Central, who, being sons of minor officers, have passed the final examination at the Manchester Municipal School of Technology for day apprentice engineers—a school by the way, which, like many other similar institutions, is conducted on lines best suited to turn out good workers and men who, like our next

Carriage by Railway; Railway Economics—Commercial; and second place in Railway Economics—Operating. The openings on Indian railways are also good for those who look upon their daily duties as a pleasant occupation instead of considering them all as work—work—work. A certain number of young men qualified to become higher officers are sent out yearly to the railways in India, where with ordinary care and application their future may be considered secured. If they are accepted they start on a "living" salary greater than that of the dissatisfied B.A. To take a typical case: A young fellow was brought up at an excellent middle-class school, which he left with credit and a number of prizes for athletics, as prefect of the school, and as a full-blown cadet. He then came to London and was put into the traffic department, where he served as a probationer for eighteen months under all sorts of masters, and in out-of-the-way places, some of them not very delectable. His hours were long, his food often precarious, and his experiences of the lower class of employees not always very pleasant. But he stuck cheerfully and manfully to his duties, which sometimes entailed a good deal of clerical work, well into the night, at home. In spite of all this he found time to put in his drills and to attend camp as a mounted Territorial (which taught him horsemanship and the care of horses) and to pass several examinations at the London School of Economics. If a lad has aptitude and industry and his father has the sense to encourage him in the practice of duty and discipline, there is now, in this country, every opportunity for educating boys of all ranks to become useful members of a railway or any other industrial organisation. A good example of many similar institutions is the municipal school which the two Great Central apprentices attended; firms co-operating with that establishment, by encouraging their employees to attend part-time classes, are supplied with monthly reports on attendance and progress. This encouragement has taken various forms, such as making promotion depend upon satisfactory work in evening classes, paying students' fees, exempting them from overtime in the evenings on which their classes meet, or allowing apprentices to attend day courses on one day a week throughout the season. Again, the Great Eastern directorate encourage their apprentices in the Stratford shops to win university scholarships, allowing them leave for a year or two to reap the advantages. All these opportunities, open to every one, for study and for acquiring general as well as particular knowledge, were not enjoyed by the men of the last generation; they should therefore see to it that their sons take every advantage of them.

### FLOODS ON RAILWAYS.

All railways in alluvial or low-lying lands are subject to floods. In the older countries the effect of these has been minimised by permanent protection works, and by the provisions for draining off rain water. In younger countries the preventive measures have not yet stopped abnormal overflows, and a great portion of the land is poorly drained and apt to get waterlogged. When such a condition exists, a sudden heavy rainfall cannot soak into the ground, and finally finds its way into the large rivers, which, not being adequately confined to their beds, overflow with disastrous effects. In deltaic regions floods, due to the silting up of river beds and the consequent breaching of protective banks or levels, when the water in the channels rises to abnormal heights, are almost perennial in parts of India and China. The effect of a cloud burst on waterlogged land was well exemplified on the Great Eastern in 1912 in the Norfolk district. This year floods have caused great damage in many parts of India; and in America one part of the Ohio valley has suffered from a combination of all three causes, the results proving most serious owing to the high state of cultivation



that had been attained in the district. The Pennsylvania Lines affected by the disasters have issued a booklet, written by Mr. Lewis S. Bigelow, in which photographs are reproduced of wrecked bridges, with a graphic account of the means of salvage and reconstruction adopted. The booklet is a full and complete record of the disaster of 8 ins. over the whole of central Ohio between March 23 and 27 this year. The rain fell on ground thoroughly soaked at a time when every river and stream was filled to the brim. At a place called Zanesville the water was 15 ft. higher than it had ever been before. Lakes were formed from 30 to 50 miles in length and many miles broad. The Pennsylvania Railway covers this district with a network of lines of which 135 miles were more or less damaged, cutting off communication between St. Louis, Chicago, and New York. Nearly 3,600 lineal feet of bridging disappeared, and 600 ft. were damaged. The direct property lost to the railroad is estimated at £720,000, this fact "providing the most pertinent of arguments for allowing the railroads to so fix their rates as to provide for a surplus." Besides the damage to the railroad 22,000 houses were destroyed, 35,000 were damaged, and the population affected numbered one and a-quarter million. The money loss was estimated at 60 millions, and, unlike that occasioned by the San Francisco earthquake, there was no insurance against the damage done by the flood. Even after temporary assistance ceased, some 16,000 families required financial relief in order to return to housekeeping. The railwaymen could get no outside labour to assist them, as everyone was too busy looking after his personal belongings; every employee had therefore to buckle to and work as long as he could stand. The company recognised the splendid work done by all and granted bonuses to them amounting to £14,000. As Mr. Bigelow says of the fight against the three large rivers which did the damage:—"There were no eight-hour days, no coming home in the evening, no meals with the family. The army was in the field, and in an incredibly short space of time, with the obstacles confronting them, the havoc wrought was repaired. No body of men working for money merely could have done what this army did." Ten trains full of passengers were "marooned"; these had to be supplied with necessaries as had also the scattered gangs of men working feverishly at repairing damages, more or less temporarily, and in driving piles for, and in putting up, the three miles of temporary bridges on timber trestles across gaps and streams. In one of these trains some passengers amused themselves and others by printing a two-page sheet on which a rhymster disported himself in language not always understandable on this side. At one place a railway bank "saved" a city—Jeffersonville—there being a 20 ft. head of water on the upper side. Two maps show the lines in the district before and after they were cut; between St. Louis and Chicago there are two gaps, the same between that city and Cincinnati, including a long stretch of line wiped out. West of this there is shown in the second map a large space without railways, containing eight important cities absolutely isolated, including Indianapolis, Columbus, Madison, New Albany, and Louisville. We are not told how long it took to re-establish communications all over the district, but "traffic was not restored over the entire Akron division for ten days, and that in the face of a force of more than 1,200 men working near their base of supplies and at high pressure." In view of what the Pennsylvania and other railway companies accomplished for the preservation of the people from death by flood and also by lack of supplies, fault could not be found with the author if he had further developed the theme of the legislature giving some recognition of their efforts. The Pennsylvania Company placed all their resources at the disposal of the State authorities of Ohio and Indiana for the relief of the afflicted area, where the situation was rendered doubly critical because

so were prevented from rendering help in men and tools to the victims. It was only by the aid of the Pennsylvania Company rendered to East Anglia in similar circumstances. Possibly if British railway managers sought publicity for the good that railways achieve, there would be less outcry at one of those rare intervals when Parliament has passed legislation for their benefit.

## MONEY AND STOCK MARKETS.

Continuation Days.	Ticket Days.	Pay Day.
General .....	General .....	General .....
Mines .....	Mines .....	Mines .....
General .....	General .....	General .....
Mines .....	Mines .....	Mines .....
General .....	General .....	General .....

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

At Present.	Last Friday.	Last Year.
Bank's Coin and Bullion .....	£4,171,414	£4,171,414
Total Reserves .....	£4,171,414	£4,171,414
Proportion of Reserve .....	50.30 p.c.	50.31 p.c.
Notes in Circulation .....	£4,171,414	£4,171,414
Open Market Discount .....	£324,541,000	£229,725,000
Bankers' Clearing House .....	£324,541,000	£229,725,000
Silver bars, per oz. (spot) .....	25s. 1d.	25s. 1d.
Consols (account) .....	88f. 50c.	88f. 50c.
French 3 per cent. (acc.) .....	25f. 25c.	25f. 25c.
Paris Cheque exchange .....	\$4,822	\$4,822
New York exchange .....	10s. 1d.	10s. 1d.
Rio de Janeiro exchange .....	10s. 1d.	10s. 1d.
Valparaiso 90-day exch' .....	10s. 1d.	10s. 1d.
Calcutta transfers .....	10s. 1d.	10s. 1d.
Hong Kong transfers .....	10s. 1d.	10s. 1d.
Shanghai transfers .....	10s. 1d.	10s. 1d.

The figures published by the Bank of England show a loss of gold by export to Egypt, which amounted to £920,000 at the date of the return. This was set off by a receipt of no more than £100,000, which came from Argentina, so that the net loss amounted to £820,000. The internal circulation of coin remained practically unaltered, a mere £5,000 being all that can be traced as withdrawn for that purpose, but the active note circulation contracted by £14,000, making the reduction in the Reserve £825,000, £100,000 less than the amount of the loss of gold at the corresponding date of last year, when the Bank Rate was half a per cent. lower. Public Deposits were indebtedness to the Bank, as is seen in the diminution of Other Securities by £400,000. Private Deposits are nevertheless £1,011,000 lower at £43,554,000, a level at which they are not likely long to remain. Indeed, the rate of discount has appreciably hardened since our issue of the 6th inst., the three months' bill being quoted about the tenth of one per cent. higher. As the result of all changes,



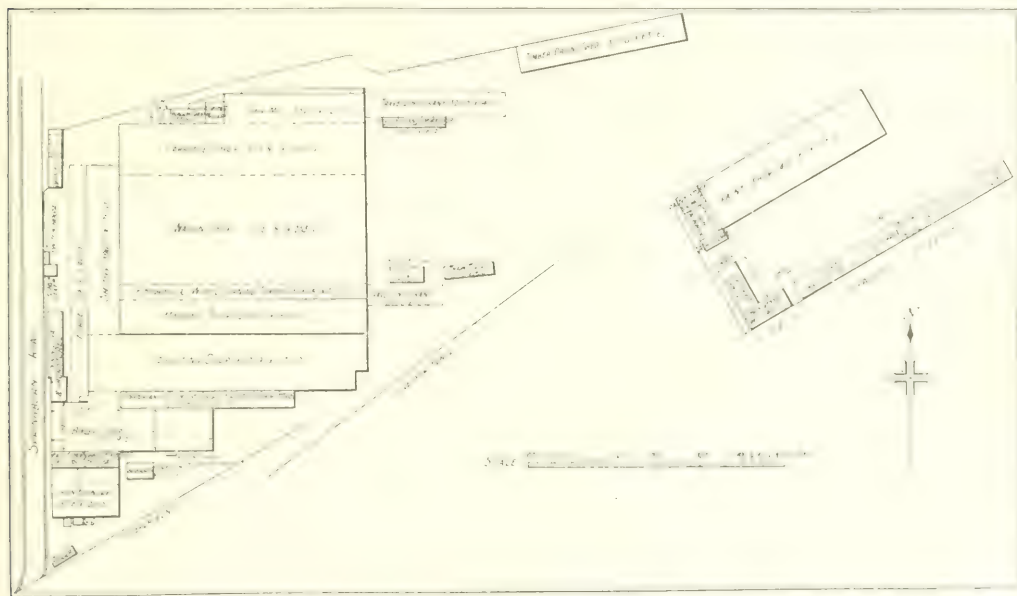
## THE EQUIPMENT OF MODERN RAILWAY WORKS.

### ST. ROLLOX WORKS OF THE CALEDONIAN RAILWAY.

The improvements that have been made during the past few years in the equipment of up-to-date railway workshops can only be described as extraordinary. Where, up to a comparatively short time ago much of the detail work was done by primitive methods involving the maximum amount of labour, to say nothing of the time spent in the operation, to-day many of our railway shops are equipped in such a manner as to compare favourably with any works in the country. Much has been said from time to time, both for and against the practice adopted by the principal British railway companies of building their own locomotives and general rolling stock, and one of the main arguments invariably advanced in favour of the outside builder is that his shops are better equipped for the purpose than those of the railway company. However true this may have been in the past, it is safe to say that to-day the

must be sacrificed. Now, while it may be a comparatively easy matter for the directors of a company whose sole business is the running of a railway to send the thousands of pounds shall be relegated to the scrap heap as obsolete, and the latest types of time and labour-saving appliances installed in their place there are innumerable difficulties in the way of such drastic action being taken in regard to the railway shop. Under special circumstances, such as the removal of the London and South Western works from Battersea to Eastleigh, full advantage could be taken of the magnificent range of machines that are now being offered by the various manufacturers of these specialities, but, in the majority of cases, much of the equipment installed prior to the advent of high speed tool steel has still to do duty, merely being brought up-to-date, as far as possible, by means of special attachments and the installation of electric motors.

A good example of the modern railway shop equipment is given by a description of the St. Rollox Works of the



Caledonian Railway Carriage and Wagon Workshops and Stores—St. Rollox, Glasgow.

majority of the leading British railway companies have taken such advantage of the special machines, tools, etc., that many of their shops are as well fitted for the construction of engines and rolling stock as those of outside manufacturers.

When considering the question of railway shop equipment, one is immediately faced with two important points or factors, each operating in an opposite direction. It will be readily admitted that the comparatively recent introduction of high grade tool steel has had a revolutionary effect upon the designers of machine tools, and that results have been obtained which, even in this advanced age of engineering, may be regarded as truly wonderful. Here, then, we find the principal cause for the installation of the special machinery which is rapidly altering the character of many of our railway shops. On the other hand, however, the railway locomotive or carriage and wagon superintendent is faced with a difficulty that in the majority of cases can only gradually be overcome. It is clear that, in order to instal new plant, the old or obsolete machinery

Caledonian Railway, over which Mr. John F. McIntosh, the Locomotive and Carriage and Wagon Superintendent, presides. It will be seen that, as regards completeness and equipment for the most economical working, little remains to be done at St. Rollox, in spite of the handicap already referred to.

The workshops of the Caledonian Railway Company extend to 24 acres, fully 13 acres being roofed, and though the space was considered more than ample when the workshops were built in 1882-84, it is, at this date, hardly sufficient for the company's requirements in the construction and repair of locomotives, carriages and wagons, and details for various other departments of the railway service. Employment, of course, fluctuates, but frequently the company provides work for over 3,000 men at St. Rollox.

In busy times, the workshops can produce in new work annually 52 engines, 104 carriages, and 1,000 wagons, while, along with the smaller workshops at outside stations, repairs may be done to 1,000 engines, 10,000 carriages and 100,000 wagons.



In the two power sheds for driving the machinery is electricity, the current being supplied by the Glasgow Corporation to a sub-station in the works at 6,000 volts, thereafter being transformed to a working voltage of 500. As the motive power was formerly steam, it has been thought better simply to divide the machinery into large groups to each motor rather than to apply a motor to each machine, which would have entailed very great expense. In a few cases, however, this has been done, as with the heavy punching and shearing machines, the overhead travelling cranes, and some other special machinery. The transport of material from one department to another is facilitated by the use of a small 1ft. 8½ in. gauge tramway, and of course the usual 4ft. 8½ in. gauge lines penetrate and encircle the works in all directions. Parts of the workshops are lighted by electricity, but the incandescent gas light seems also to be holding its own. Hydraulic power is being supplied by the Glasgow Corporation at 1,200lbs. per square inch, a rather lower pressure, however, being obtained in the works, where a considerable number of cranes, wheel presses and flanging presses use water pressure.

The forge, which is 547ft. long by 40ft. wide, is equipped with two steam hammers from 15 to 60 cwt., the steam for which is obtained from old locomotive boilers heated by the waste gases from the forge furnaces. A large 1,000 ton press is used for bossing wagon wheels, and there are the usual machines for bolt and nut making, spring making, bar sawing, scrap cutting, spoke bending, axle guard bending, angle iron bending, wheel veing, etc. There are 7 forge furnaces, the heaviest classes of locomotive forgings being produced such as engine axles, straight and cranked. Crane power is plentiful, 2 hydraulic and 7 hand cranes being in use.

In the smithy, which is 300ft. long, by 75ft. wide, there are 80 hearths, the air blast supply being obtained from four Keith and Blackman fans, the pressure being 1½ ins. of mercury. There are 14 steam hammers from 5 to 7 cwt., and 5 Olivers for light work. Blocking is most extensively used in the smithy and forge, and in smith-work it would be hard to beat St. Rollox for cheapness of production. The spring shop is a busy part of the smithy. It has 2 furnaces, 2 hearths, and hydraulic machinery for bucking and stripping.

The boiler shop is 377ft. long by 97ft. wide, and it is fitted with modern machinery to deal with boilers of the largest size. For handling material two 20-ton overhead travelling electric power cranes are used, while a large amount of work is done by pneumatic tools in the way of drilling, tapping and stay cutting. The principal tools include a 20-ton portable planing machine, 12ft. gap hydraulic rivetter, double-headed drill for boiler barrels, double-headed drill for tube plates, large and small punch and shears, milling, drilling and tapping machines, and in conjunction with a large plate furnace a 250-ton hydraulic press is used for flanging of boiler plates, etc.

The iron foundry is 158ft. long by 120ft. wide, and it deals with the product of two cupolas (one 6 tons and the other 10 tons per hour). The blast is supplied by a large Sturtevant blowing fan. There is a 5-ton overhead crane for handling the metal for heavy castings. For repetition work there are 4 moulding machines, 2 pneumatic sand rammer, and 10 sand rammer machines.

The brass foundry is 70ft. long by 38ft. wide, and as the copper and brass castings are of a great variety, the machinery is of a general character, and the furnace is in constant use, and for repetition work 3 moulding machines are used. A brass mill in every plant has a large sand rammer.

The shops for the motor car and dry van department are adjacent, and call for no special notice.

The machine shop, which includes the wheel shop and brass shop, is 577ft. long by 110ft. wide, and is driven by

six motors of 70 h.p. each. It is equipped with all the ordinary and special machines required for locomotive, carriage and wagon work. Of milling machines, modern turning lathes and other machinery there are many good examples side by side with machines of older make but still useful and employing labour cheaper than required for modern tools. Adjoining the machine shop in the yard is the tyre shed. For tyre heating gas furnaces are used; tyre fitting and stripping being carried on expeditiously by the help of a 5-ton hydraulic crane, while for hammering over retaining rings a pneumatic hammer is driven from overhead shafting.

A recent addition to St. Rollox Workshops is the chain shop, 116ft. long by 25ft. wide, and situated in the yard. Its equipment consists of a 30-ton Board of Trade chain testing machine, 1 annealing furnace, 1 smiths' hearth, 1 oil bath, fitters' benches, etc. For the convenient examination of chains a pit 2ft. 6 ins. deep and 50ft. long is provided, the floor on each side being covered with cast-iron plates. The very large number of chains in use for cranes, slings, etc., makes this department a most important one in the interests of safety.

The fitting shop forms part of the area included in the machine shop, and it contains 20 vice benches, drawing-in tables, motion tables, etc. A very large variety of work is turned out, including millwright work, Westinghouse brake, locomotive, carriage and wagon detail, and general work for every part of the system.

The wagon shop has space for 420 wagons on 13 lines of rails and is part of an area 577ft. long by 372ft. wide, which includes the carriage shop. The latter has accommodation for 90 carriages on 6 lines of rails. Adjoining the carriage shop is the cabinet-makers' shop where the finer woodwork for carriage interiors is done.

The sawmill is the most modern part of St. Rollox Works, it having been quite recently rebuilt owing to the destruction of the former building by fire. It is 328ft. long by 68ft. wide, having a ground floor and basement, the latter containing all the driving machinery, which is almost entirely electrical, small groups of 3 or 4 machines being assigned to each motor, except for the largest machines, which are independently driven. From the drying shed and sawmill yard the timber is brought into the mill at the east entrance by a narrow gauge tramway, where a large 7ft. cross-cut saw is placed which deals with the heaviest logs without removing them from the bogie. The machines, of which there are 40 in all in the sawmill, include a 42-in. log frame, 16in. by 7in. roller planer, 15in. by 6in. planer, 60ft. and 30 ft. saw benches, sandpapering machine, 32in. and 24in. panel planers, facing and edging machine, moulding, mortising, tenoning, drilling, and tool-grinding machines. Adams' patent pneumatic sawdust collector is installed, the trunk lines of piping being placed in the basement, branch pipes with collecting hoods being led to every machine. Four fans propel the refuse to a hopper in the collector house, where it is either loaded into wagons or discharged into the furnaces of two destructor boilers. Oak chips are collected separately and sold for special purposes. The motive power for the fans is taken from an engine supplied with steam by the destructor boilers.

The engine shop is 684ft. long by 144ft. wide with accommodation for 60 locomotives, and 20 tenders on 6 long timbered pits, 2 pits being in each bay with a middle road between. For each bay there are two overhead 20-ton travelling cranes driven by electric motor controlled from the crane. Pneumatic tools are much used for drilling and tapping, and there are two portable cylinder boring machines. The adjustment of locomotive springs is made by a large wheel bar machine with 41 separate tables and steel-yards. The copper and tinsmith shop is 312ft. long by 40ft. wide, and it is fully equipped with special tools for pipe bending, hammered iron work, lamp-making, and general tinsmith work. The paint and trimming







## GENERAL NEWS.

## THE MIDLAND COLLISION.

## CAUSE OF THE ACCIDENT ACKNOWLEDGED AT THE INQUIRY.

The Board of Trade inquiry into the collision of the Midland Railway at Aisgill was continued on Friday and Saturday and then adjourned.

NICHOLSON, the driver of the first train which was run into whilst standing awhile to get up sufficient steam to continue its journey up the incline, was questioned by Mr. Cecil Paget, general superintendent of the line, as to the caution issued warning drivers not to unnecessarily expose themselves to danger by going round to oil engines, and Mr. Paget said the company thought that a competent driver was the best judge as to whether he ought to put a few drops of oil in or not, adding, "Some drivers do it; some do not." Witness explained that on a calm night he went round, but not on a rough night. When the train stopped he told the guard that the delay would be for a "few minutes." The fireman was about to go to Aisgill to tell the signalman of the position when a light was observed, and witness at once assumed that the second express was approaching. He told the fireman to run back and try to stop it, but soon afterwards the collision occurred. Witness described the efforts to rescue passengers, and said some people had axes. The fire was assisted by the wind. He could only remember one previous occasion, many years ago, when he had to stop owing to shortage of steam. His train had a load of 243 tons, the usual load being 230 tons, but once he took 258 tons without difficulty. It all depended on the weather. He asked for a pilot at Carlisle, but was told, "There is no pilot to-night." No blame was attached to drivers for losing time owing to shortage of steam if the circumstances were entered in their reports. The idea that the stoppage of the train was a dangerous proceeding never occurred to him. He was protected by the block signals behind him, and presumed that they would be sufficient to stop any train that was following.

METCALF, the fireman, said the coal was very small, and so difficulty was experienced in maintaining steam. He saw the coal loaded, but there was nothing better to put on at that time. There was no difficulty in getting the required head of steam before starting; the difficulty was in maintaining it with the heavy load behind. The coal was hardly fit for an express, it being the worst he had ever had to use. Such small coal entailed more work in maintaining steam. The first duty of a driver was to see that the line was clear, but naturally he would help the fireman if necessary.

FISHER, the sleeping-car attendant, said the fire was in front of the engine of the second train, and it spread so rapidly that efforts to put it out had to be abandoned.

DONNELLY, one of the guards of the first express, said he gave out two hand-saws, two axes, two lamps, a steel chisel, and two smiths' hammers to passengers who asked for tools to enable them to rescue imprisoned persons.

WHITLEY, passenger guard, who was in the rear of the first train, said he ran back to warn the approaching express, but it passed him at 40 miles an hour and dashed into the standing train.

Major PRINGLE: You were the rear guard of the train; it appears to have been your duty under the rules under certain circumstances to go back and protect your train in case of a stop in the section owing to engine failure. The rule leaves it apparently to the discretion of the guard. What have you to say about it, why did you not act upon the rule?—I did not think it was necessary at the time. Donnelly (one of the guards) told me the time that would elapse before we started was so short that I did not think it necessary to carry out the rule.

CAUDLE, the driver of the second express, said he had been in the service of the company for 40 years, for 20 of which he had been a driver. He was 59 years of age. On Tuesday he signed on to work the 1.49 a.m. express from Carlisle to London as far as Leeds, and expected to finish duty at 6.15 a.m. The train consisted of six carriages, and the weight was 157 tons. The engine was supposed to take 180 tons without a pilot. If the weight exceeded that, drivers asked for a pilot, but did not always get it, and were told to do their best, which meant

The coal was small, but he had not complained, though he thought to himself that if the engine would steam with it it would steam with anything. As he approached Birkett tunnel he left the footplate on the left side to oil the left driving auxiliary box. He stayed outside the engine until the train had passed through the tunnel, and then he went round the tunnel to the right side.

the box on that side, and then returned to the footplate. When he got back his first thought was to look at the glass, in which he had left about an inch of water. There was no water in the glass. Witness agreed that the most important duty of a driver was to observe signals. When he went round from one side of the engine to the other he just caught a glimpse of the distant signal, and he thought the signal was off, but he could not swear to its being off. "I did not take a second look at it as I always do," added the witness, "because I always reckon to look at signals twice so that I can be certain, but I did not do so in this case. When I got round I found the glass with no water in it, and that took my attention. I must have forgotten the necessity of observing the distant signal all along. I applied myself immediately to the injector." He admitted that he did not observe the position of the next signal—he was so busy with the injector. He passed Mallerstang signal box without looking at it, and he was sorry he did not see the position of the outstarting signal, though he could have got a good view of it. Asked as to the danger of leaving the footplate to oil the engine, witness said: When I went round in front of the engine before I reached the Mallerstang signals, I found that the wind was more than I expected. That delayed me in getting round the engine, and caused me to be outside the footplate as I passed the distant signal at Mallerstang; at any rate I believe I was outside the footplate when I passed the signal. As a general practice I would not go round oiling an engine if the section was a short one. I would not go round if there were curves on the road, or when there was necessity for a particularly close look-out. This practice, I believe, does not involve any real danger to the train.

FELLOWES, the fireman of the second express, said it was part of his duty also to look out for signals, but could not do so when firing. There was exceptional trouble in attending to the fire and the boiler owing to the small coal.

Mr. PAGET mentioned that they were now using a different coal at Carlisle.

After other evidence, the inquiry was adjourned until Monday next at the Board of Trade Offices, Whitehall.

## IRISH RAILWAY ACCIDENT.

A serious accident occurred at nine o'clock on Sunday night near Londonderry, on the line jointly owned by the Great Northern of Ireland and Midland of England Railway Companies. One person was instantly killed, and a number of others were injured. It appears that the engine suddenly toppled over on its side, causing two carriages, crowded with excursionists, to overturn. The train, well-laden with passengers, left Londonderry at nine o'clock on Sunday night for Strabane, and ran off the rails as it was proceeding round a sharp curve at Donemena. When the train was approaching the station the carriages began to rock violently. Then, without any other warning, the engine dashed over on its side.

At a special court of the Petty Sessions at Strabane on Monday, Neal Fullerton, the driver, and William Doherty, the fireman of the train, were charged by the police with driving the train at such a rate of speed as to cause the death of Michael McPhiboney, a passenger, and serious injuries to other passengers. The driver informed the Court that there was no reckless driving. The defendants were remanded for a week.

## Clifton Rocks Railway.

The Clifton Rocks Railway, which was opened on September 1st, 1912, has been running since that date. The railway is 1.5 miles long, and carries 100 passengers per hour. The engine is a 4-wheeled locomotive, and the train consists of six carriages. The weight of the train is 157 tons. The engine is supposed to take 180 tons without a pilot. If the weight exceeded that, drivers asked for a pilot, but did not always get it, and were told to do their best, which meant



in which the movement of vehicles used exclusively upon railways was not concerned, namely:—2 passengers, 6 servants of companies or contractors and 1 other person killed, and 184 passengers, 6,287 servants, and 118 other persons injured, making a total in this class of accident of 9 persons killed and 6,589 injured, as against 18 killed and 6,386 injured in the corresponding period of 1912.

### STATION AND PERMANENT WAY IMPROVEMENTS.

#### AN IMPROVED FISHPLATE.

According to the "Daily Telegraph," a young Danish engineer has invented a new and improved kind of fishplate, the metal strip joining two lengths of railway metals. They prevent the rails sinking when trains pass over them, and so the jolts which passengers find so objectionable are eliminated. They also possess the advantage that running is rendered safer, and as it is more even the consumption of coal is decreased. Experts who have examined them say that the saving of fuel amounts to 33 per cent., and that the wear and tear of the road and rolling stock is diminished. The new fishplate withstands jolts 80,000lb. greater than the old pattern.

**GREAT CENTRAL.**—The work of duplicating the Great Central Railway lines between Doncaster and Thorne is now in hand. Both the stations of Barnby Dun and Stainforth are to be remodelled.

**LEUCHARS.**—Since the destruction two months ago of Leuchars Junction by fire a movement has been started to have the new junction built at Cupar instead of Leuchars. Representatives of the Town Councils of Cupar and St. Andrews have discussed the proposed change from different points of view. The directors of the North British Railway have arranged to consider the matter with a deputation from the interested parties.

**HAWICK.**—The directors of the North British Railway Company have agreed to carry out immediately alterations and improvements at the railway station.

**BLACKPOOL.**—Railway facilities between Blackpool and the Yorkshire districts are to be greatly improved by the construction of an additional line through the East Lancashire side at Preston station. This new line, which will run outside the existing station, will enable the heavy Blackpool traffic to be handled with considerably increased rapidity. The contract has been placed.

**FORD.**—The Great Western Railway has opened a new station at Ford, Wolfscastle, on the main line between Fishguard and Clarbiston Road. The new station is situated at the entrance of Trefgarn Valley.

**ABERDEEN.**—Rapid progress is being made with the new station, under the direction of Mr. James A. Parker, the engineer, and by the contractors, Messrs. Anderson, of Glasgow. Traffic has been carried on uninterruptedly in the station while the works are in progress, and this entails special arrangements. At Carstairs recently the old station roof was removed, and this was done on a Sunday, when a number of locomotives were hitched to the pillars supporting it and set on to haul, the roof being brought down in a mass, and the debris cleared away before the week's traffic was resumed on the Monday. To deal with the Aberdeen roof a great gantry has been erected. The existing roof of the station is arched, and it is 97ft. in span and 500ft. in length. It consists of 21 bays, and the intention is to remove it in sections, a bay at a time, by means of the gantry. Freestone is to be employed largely in the new buildings. There will be a course of axed granite, breast high, along the base, but above this free stone from Northumberland will be used. The roofing of the new station will be of the umbrella type throughout. There will be no large arched roof as at present. The large concourse in the centre—a feature of Mr. Parker's design—will be roofed with a continuous roof. The platforms are covered, but above the railway lines there is no covering, and the advantage of this is that steam and smoke escape straight into the atmosphere.

**REDLAND.**—At Redland a railway bridge, weighing 50 tons, has been replaced by a new one weighing 80 tons or more in the space of three hours. Operations were commenced at 5 o'clock on Sunday morning. On the top sills of the trestles steel rails were fixed, and on these were wooden bogies, or trolleys. The new bridge was erected complete

on bogies alongside the existing bridge, and everything was so arranged that the old bridge, also mounted on bogies, was ready to be moved out of position, and the new slewed into its permanent place. The exchange was made by means of wire ropes and winches. The new bridge takes the place of one that has served since the opening of the Clifton Extension Line forty years ago. It was constructed and erected by E. Finch and Co., Ltd., of Chepstow, Mon., with Mr. T. W. Ellis as contractor. The Midland Railway Company is responsible for the upkeep of the permanent way, and the contract was carried on under the supervision of the company's engineers.

### SUGGESTED COVENTRY TO NUNEATON ELECTRIC RAILWAY.

Coventry and Nuneaton are agitating for better railway facilities, and a deputation has been to Euston to urge their claims on the London and North Western Railway. Sir R. Turnbull, the general manager, gave the deputation a cordial welcome, which has led the members to hope that arrangements will be made to satisfy the citizens of Coventry, Nuneaton and the districts between these places.

At a recent meeting of the Coventry Chamber of Commerce it was stated that Sir Robert Turnbull had promised that the loop line would be opened in 12 months, and would relieve the congestion at Coventry.

It was explained that the deputation had urged the importance of the nine miles of railway between Nuneaton and Coventry. Although the fact was probably well known to Sir Robert Turnbull, the deputation had to call his attention to the point that this railway was made to run twelve trains per day—six up and six down. To-day they were running eighty to ninety trains per day, and as between the two towns a vast industrial district had sprung up, it was necessary that there should be further facilities for the passenger traffic. It was suggested that the company should lay down a duplicate set of rails and electrify them.

The deputation further pointed out that the district of Nuneaton and that from Bedworth to Nuneaton were not adequately served, as the line did not give that accommodation which was necessary, and that the company should start an improvement of that accommodation by running a number of motor omnibuses to the outlying districts to supply Nuneaton and Bedworth, that they should extend them to Stockingford and Hartshill and all the villages surrounding, where there was a large population that wished to travel on the line. At present they had no direct means of doing so without walking, and at very great inconvenience. This Sir Robert Turnbull promised to give attention to, and he thought it was a sound proposition.

### NEW RAILWAY SCHEMES.

**SUGGESTED LINE FROM STOURBRIDGE.**—An old project is being revived for a railway from Stourbridge to Kinver, and local people are urging the Great Western Railway Company to give due consideration to the scheme.

**UNITED STATES TO ALASKA.**—Resolution has been lodged with Congress at Washington in favour of a railroad connection between the United States and Alaska.

**GOWER LIGHT RAILWAY PROPOSAL.**—At a meeting of the directors of the London and North Western Railway Company to be held in October, the question of the arrangements regarding the Gower Light Railway will be considered. The recommendations of the general manager are in favour of the scheme.

**AT PRAIA, S. M. DE L. L.**—A contract has been signed by the company with Senhor Joao Pedro Vierling for the construction of a railway from Tomar to Nazare, and its working for ninety-five years, the Government reserving the right to purchase after fifteen years.

**RUSSIAN RAILWAYS.**—The more important of which are the Société des Embarcements de Chemins de Fer, the Black Sea Railway Company, the Atchinsk Minussinsk Railway Company, and the Semirietchensk Railway Company. The Russian Government views sympathetically the proposal to open up further Russian coalfields by means of railway construction.





## WORKS OF THE METROPOLITAN CARRIAGE AND WAGON CO.

During the history of the British Association, and the engineering industry, The Metropolitan Carriage, Wagon and Finance Company, with its customary enterprise, issued an interesting souvenir of its far-famed Saltley Works, where a great British industry has flourished since the early days of railways. The company is, indeed, a huge concern, with a capital of £2,975,000, having grown out of the business founded by Joseph Wright. Mr. Frank Dudley Docker, C.B., is now the Chairman, and Messrs. W. C. Shackelford and Percy Wheeler are the managing directors.

The souvenir booklet reviews many interesting things concerned with railways, and it is pleasant to observe that the company pioneered the corridor coach in this country by the clever idea of placing the gangways at the side instead of the middle, thereby combining the advantages of the American corridor coaches with the privacy of the older type of compartment coaches. The latest type of British rolling stock is unequalled for the comfort of the most fastidious passenger, and the Metropolitan Company, with its remarkable resources both in men and machinery, has been in the very forefront in the design and execution of this type. Many of the improvements which delight the eye of the engineer and the upholsterer are due to the initiative and enterprise of the company, which has been prominent in placing our rolling stock in a position second to none in the world. Much has been written of the elaborate character of the up-to-date American railway carriage, but it cannot compare with ours for luxury and comfort and excellence of design. The company, too, has rendered great service by improving the design of the railway truck.

Commendatory reference is made to the company's work-people. It is affirmed that there is no workman in the world like the British workman for dexterity and thoroughness and attention to detail. Doubtless a large measure of the success of the Metropolitan Carriage and Wagon Company is due to the fact that they possess workmen of the highest stamp of ability, and it is certain that in their forging shops there are some of the best smiths in the world. A firm employing upwards of 14,000 men, and occupying works covering an area of upwards of 600 acres, necessarily absorbs a tremendous amount of raw material. The imports of iron and steel into their yards are truly colossal; the timber in stock and in course of delivery is worth never less than a quarter of a million sterling, and the consumption of other raw material is correspondingly large.

The problem whether steel is better than wood for the construction of passenger coaches remains, it is stated, to be threshed out, but at the present time the custom largely is to use wood. The company seasons its own timber, and its methods of stocking and seasoning are of the best. It is of primary importance that all materials should be of the highest class, and the company's recognition of this fact is appreciated by home and foreign railways, who are fully alive to the Metropolitan Company's quality of work.

All kinds of contracts are undertaken. The company builds rolling stock for all climates. Each country adopts different ideas, and each climate necessitates a change in some important feature of construction. In the tropical, for instance, the roofs of the carriages are so designed as to resist, as far as possible, the heat of the sun, there being, up in the roof proper, an outer covering which is taken over the sides of the carriages and forms in some measure a sunshade. The current of air between the roof and the covering makes for coolness. At the other extreme attention is paid to the design of carriages used in cold climates, special heating apparatus being used in the saloon carriages. The practice of the open iron stove so familiar in America has never been adopted; its danger so often unfortunately proved to be present by the many fatal fires which have taken place being obvious. In the upholstering and lighting of the coaches the company has nothing to learn, its experts, as the result of their experience of work in every climate, being able effectively to carry out any idea, or better still, produce results giving more satisfaction than anything that could be designed locally.

The members of the British Association made a tour of the works. Here there are relics of the work of the Wrights, who laid the foundations of the present successful business.

## A VERTICAL LIFT RAILWAY BRIDGE.

brought into use the vertical lift span bridge, illustrated on St. Paul, Minn., and it carries a single railway track. It is through truss span, all built in 1887 and reinforced in 1907.

construction 625 tons of steel, 3,572 cubic yard of concrete, exclusive of concrete in the counterweights, 3,420 cubic



St. Paul Railway Bridge-Span Raised for Navigation.

of coterdam timber, while 1,500 cubic yards of excavation had to be made.

Our illustration shows the lift span in its raised position. In each tower there is a concrete counterweight weighing 225 tons. Each of these counterweights balance the load of the lift span with its machinery and the operator's house, etc., which amounts to about 100 tons. There is a complete interlocking system, and automatic stops for the operator's motors when the bridge has reached its maximum lowered position, as the case may be. There is also a wall 213 ft. length of the bridge.

The superstructure by the American Bridge Company, and the work of construction occupied eight months.

Length of Bridge, 600 ft.

ordinary traffic.

## DINING ON THE TRAIN.

The Great Western Railway has restaurant cars on cheap day excursion trains, providing an excellent meal of soup, joint, vegetables, sweets and cheese for 2s. The Great Western Railway has 88 restaurant car services, and the London and North Western Railway 80. The Great Eastern Railway, however, boasts a greater outgoing service of restaurant car expresses in England than any line running out of London, this being a good illustration of the policy of the company for inducing business men to live in the country by providing breakfast trains to town and tea and dining trains for the return evening journeys. An indication of the extent to which the restaurant car services have developed on the Great Central Railway is given in an advertisement in this issue of the RAILWAY TIMES.

## NEW PUBLICATIONS.

"Universal Directory of Railway Officials." (July, 1913. Published by the Railway Officials' Directory Co., Ltd., 15, Farringdon Avenue, E.C.4.)—This, the 10th issue, is compiled as usual from official sources under the direction of Mr. S. R. Blundstone, editor of the "Railway Engineer." Every possible information is given about railways all over the world, and of tramways worked by power in England. The number of engines, rolling stock, steamers and boats, omnibuses and other vehicles possessed by railway undertakings is given for State as well as for private lines. The names of foreign railways are shown, under their English names, and the names of the officials are given, thus enabling communications to be correctly addressed. On the

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81-Ton Gun Barrow to Middlesbrough for Shipment to Japan

## HEAVY LOAD ON THE FURNESS RAILWAY.

The Furness Railway, although at this and other periods of the year carrying a large tourist traffic in one of England's most picturesque districts, also serves a locality renowned for engineering works. One of the most important is devoted to warships and guns. A reminder of this establishment is given by the appended illustration, showing an 81-ton gun in transit from Barrow to Middlesbrough for shipment to Japan to the order of the Japanese Government.



PERSONAL.

Mr. Calverley E. Riley

Mr. Calverley E. Riley, of the South Eastern Railway, has been appointed to the post of General Manager of the Great Eastern Railway.

Mr. Robert W. Strachan

Mr. Robert W. Strachan, of transportation, Bengal-Nagpur Railway, has received the appointment of General Manager of the Great Eastern Railway.

Sir Miles Penton

Sir Miles Penton, of the Great Eastern Railway, has celebrated his eighty-third birthday on September 5. He is now consulting director of the South Eastern and Chatham Railway.

Mr. A. J. Snow

Mr. A. J. Snow, accountant on the Great Eastern Railway, has achieved many successes in his career.

Mr. Snow is a certificate in book-keeping and the senior certificate in the London Chamber of Commerce for accountancy. He has passed also the examinations of London School of Economics in the Law of Carriage by Railway and in Commercial and Operating Railway Economics.

Mr. W. S. Bancroft

Mr. W. S. Bancroft, at Derby, celebrated his silver wedding last week, and the secretarial staff presented him with a silver centre-piece. In making the presentation, Mr. James Mason said he was sure Mr. Bancroft would appreciate the fact that the movement was quite spontaneous, and that immediately it became known it received the most generous support not only in the secretarial offices, but in the other offices.

Mr. James Feiron has just retired from the management of the publicity and advertising department of the Metropolitan Railway after a service of 44 years. Mr. Feiron had railway service before he became connected with the Metropolitan, for he was eight years with the Great Northern Railway. He boasts of having achieved three records in the course of his 52 years of railway work, namely, that he has not been away through illness for a month during the whole of the time; that

he has attended every half-yearly meeting of the Metropolitan Company since 1869. Recalling the old railway days, he says that when he was first appointed to King's Cross there was no St. Pancras terminus, for the Midland only came as far as St.

speed of those to-day. The Metropolitan Railway comprised only eight miles of rail when he joined it; now there is a mileage of 78. Some of the carriages used half a century ago are still in service on the branch lines. The most notable feature of railway policy is considered by Mr. Feiron to be the recognition of the fact that the railway is a public utility.

Mr. Feiron was manager of the London and North Western Railway.

RAILWAY NOTES.

Completion of a North Eastern Railway Extension. The railway to the Darras Hall estate from Ponteland will be opened at the end of the month. The line, which is about a mile in length, has been laid to meet the requirements of residents on the new estate of Darras Hall, and the North Eastern Railway Company has built a station at the terminus.

London and South Western Electrification. The electrification of the London and South Western Railway system was begun at Teddington, on the Kingston line. The work is expected to take two years to complete. A site for the power-house for the working of the whole of the lines is being erected on the north side of the railway between Woking and Guildford.

The power-house for the working of the whole of the lines is being erected on the north side of the railway between Woking and Guildford.

Smoke from Locomotives.—A summons taken out by the London County Council against the London, Brighton and South Coast Railway for smoke nuisance was dismissed at the Tower Bridge Police Court on Monday, the magistrate finding that there was no negligence on the part of the driver of the locomotive. The Council had offered to pay costs, but everything possible was done to avoid the smoke nuisance. In the result the Council was ordered to pay costs.

European Railway Conference

Midland Railway Scheme

Syndicate, for the construction of a railway along the coast of the North Sea.

Flares for the Protection of Coast Forts

country. Immediately a train is held up a flare is stuck into a sleeper, and upon ignition it gives a brilliant red light, which can be seen for a mile or more.

OBITUARY.

Mr. John Miller Grant

Grant, of the Stock Exchange, died at Southsea on Monday in his eighty-fourth year.

BANK RETURN.

The return of the Bank of England for the week ended Wednesday, September 10, compared with that for the previous week, shows the following changes:—

BALANCE SHEET		Sept. 10	
DEBIT ACCOUNT.		1913.	
712	Rest		
15,514,181	Public Deposits	44,565,994	
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PEARL ASSURANCE COMPANY, LTD.

Annual Income £3,037,000  
Claims Paid nearly £14,000,000

PECKETT'S LOCOMOTIVES

PECKETT & SONS,  
ATLAS LOCOMOTIVE WORKS, BRISTOL.

MIDLAND

RAILWAY CARRIAGE & WAGON CO., LTD.

Builders of  
RAILWAY CARRIAGES,  
RAILWAY WAGONS,  
TRAMWAY CARS.

and every description of Rolling Stock.

MIDLAND WORKS, BIRMINGHAM,  
and Abbey Works, Shrewsbury.

## RAILWAY STOCK AND SHARE LIST.

## HOME RAILWAY ORDINARY STOCKS.

NAME	CLOSING PRICES.				NAME	CLOSING PRICES.			
	1st Week	2nd Week	3rd Week	4th Week		1st Week	2nd Week	3rd Week	4th Week
Barry, G.R.	107	107	107	107	Lond. Chat. & Dover, Arbit. Ord.	109	109	109	109
Bristol & Exeter, G.R.	90	87	87	87	London and North Western, Cons.	157	157	157	157
Canterbury, G.R.	70	70	70	70	London and South Western, Cons.	110	110	110	110
Do. Pref. Conv. Ord. (3%)	56 1/2	57	56 1/2	56 1/2	Do. 4% Pref. Conv. Ord.	81 1/2	82 1/2	81 1/2	81 1/2
Do. Def. Conv. Ord.	18 1/2	18 1/2	18 1/2	18 1/2	Do. Def. Conv. Ord.	52 1/2	52 1/2	52 1/2	52 1/2
Do. Def. Ord., No. 1	6	6	6	6	Mersey, Cons. Ord.	47 1/2	47 1/2	47 1/2	47 1/2
Cambridge, Ord. Capital, No. 1	11 1/2	11 1/2	11 1/2	11 1/2	Metropolitan, Cons.	47 1/2	47 1/2	47 1/2	47 1/2
Do. Cons. Ord.	11 1/2	11 1/2	11 1/2	11 1/2	Do. Capital Bonds, 5% 1924	53	51	51	51
Cardiff, Cons. Ord.	7 1/2	7 1/2	7 1/2	7 1/2	Metropolitan District, Ord.	55	55 1/2	54 1/2	55 1/2
Do. Def. Ord.	7 1/2	7 1/2	7 1/2	7 1/2	Midland, P. & G. Cons. Ord.	51	51	51	51
City & South London, Cons.	11 1/2	11 1/2	11 1/2	11 1/2	Do. Def. Conv. Ord.	72 1/2	72 1/2	72 1/2	72 1/2
East London, Cons.	11 1/2	11 1/2	11 1/2	11 1/2	North British, Ord. Pref. (3%)	6 1/4	6 1/4	6 1/4	6 1/4
Farnham, Cons.	5 1/2	5 1/2	5 1/2	5 1/2	N. Central, L. & N. P. Ord.	2 1/2	2 1/2	2 1/2	2 1/2
Glasgow & S. Western Pref. Ord.	5 1/2	5 1/2	5 1/2	5 1/2	Do. Def. Ord.	66	66	66	66
Great Central, Pref. Ord. (6%)	14 1/2	14 1/2	14 1/2	14 1/2	North Eastern, "Consol."	120 1/2	120 1/2	120 1/2	120 1/2
Do. Def. Ord.	14 1/2	14 1/2	14 1/2	14 1/2	North London, Cons.	32	32	32	32
Great Eastern, Ord.	51	51	51	51	North Staffordshire, Cons. Ord.	32	32	32	32
Great N. of Scotland, P. Conv. Ord.	54	54	54	54	Plymouth Devon & S.W. Jun. Or.	41	41	41	41
Do. Def. Conv. Ord.	18 1/2	18 1/2	18 1/2	18 1/2	Portsmouth Harbour & Dock	18	18 1/2	17 1/2	18 1/2
Great Northern, Pref. Conv. Ord.	12 1/2	12 1/2	12 1/2	12 1/2	Reading, Cons. Ord.	11 1/2	11 1/2	11 1/2	11 1/2
Do. Def. Ord.	12 1/2	12 1/2	12 1/2	12 1/2	Do. Pref. Ord. (4%)	7 1/2	7 1/2	7 1/2	7 1/2
Great Western, Cont. Ord.	11 1/2	11 1/2	11 1/2	11 1/2	Do. Def. Ord.	93	93	93	93
Do. Def. Ord.	11 1/2	11 1/2	11 1/2	11 1/2	South Eastern, "Consol."	115	115	115	115
Isle of Wight, P. Conv. Ord. (4%)	55	55	55	55	Do. Def. Ord.	55	55	55	55
Do. Def. Conv. Ord.	55	55	55	55	Stratford & Mid. Jan. Cons.	62	62	62	62
Lanc. and Yorks. Cons. Ord.	105	105	105	105	Taff Vale, Ord.	85	85	85	85
Lond. Brighton & S. Coast, Ord.	120	120	120	120	Vale of Glamorgan, Ord.	95	95	95	95
Do. Def. Ord.	120	120	120	120					
Do. Cont. Ord. Rights reserved	8	8	8	8					

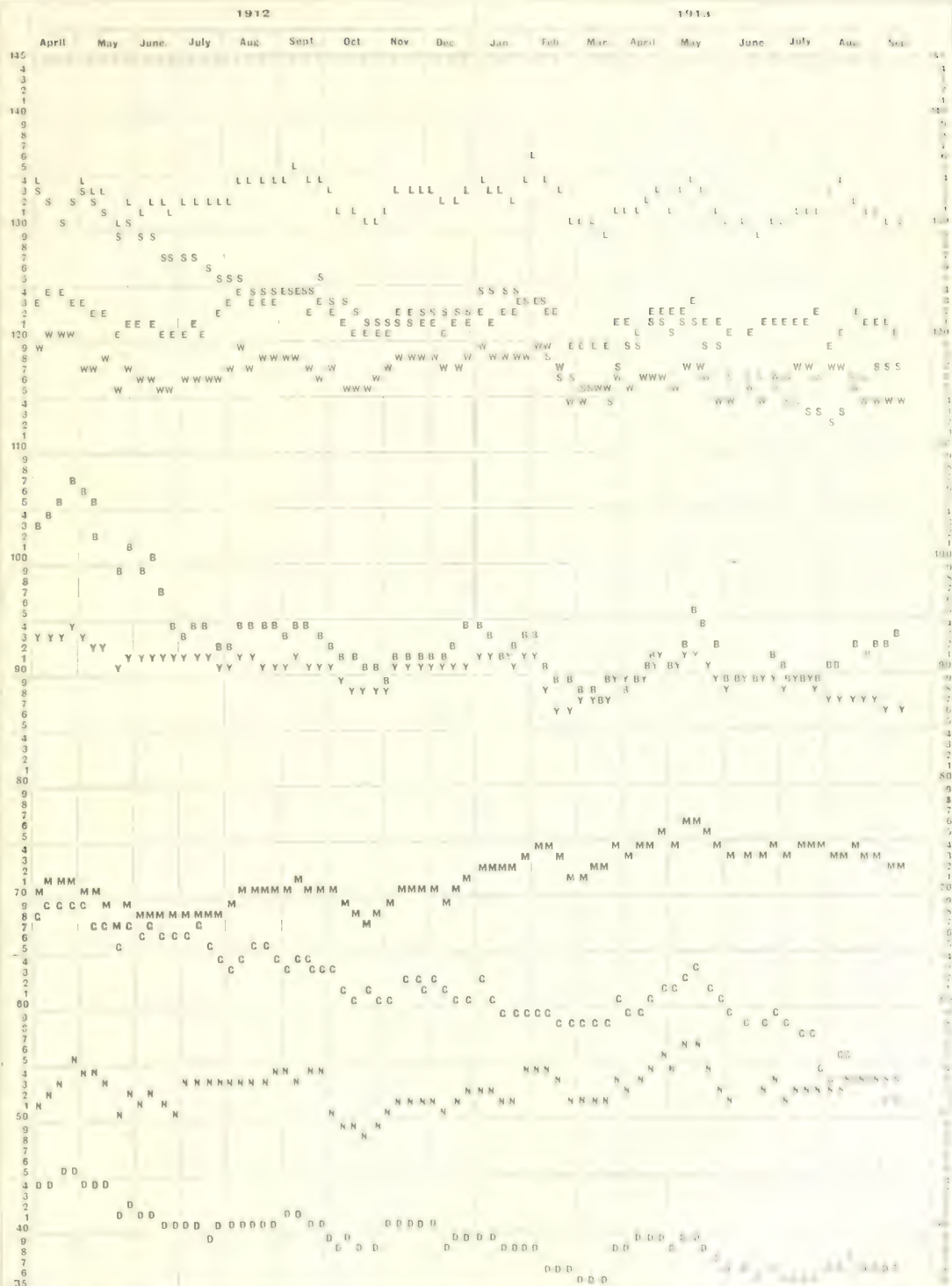
## Debenture Stocks.

## Debenture Stocks (continued).

## Preference Stocks—

(continued).

Amberley, P. & G. Cons. Ord.	4	81	81	81	North London, Cons.	4	104	104	104	Great Western, Cons. Pref., 5%	122	124
Batley, Cons. Ord.	4	81	81	81	North London, Cons.	4	104	104	104	Huddersfield, Cons.	100	102
Birmingham & Northampton, A.	4	81	81	81	Plymouth Devon & S.W. Junction	4	41	41	41	Do. Def. Ord.	130	131
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. Ord.	71	73
Canterbury, A.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	71	73
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Hall and Barnsley 3 1/2% Pref. 1901	80	82
Cardiff, A.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	91	93
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Isle of Wight, P. Conv. Ord.	54	56
Central London, A.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	54	56
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	97	99
East London, A.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	London Brighton, etc., Cons. 5%	118	120
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	118	120
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	London, Chatham, etc., Arbit. 4 1/2%	61	62
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	61	62
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
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Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. 4% Pref. 1901	102	104
Do. Def. Ord.	4	81	81	81	Reading, Cons. Ord.	4	93	93	93	Do. Def. Ord.	102	104



B—London, Brighton & South Coast, 1912. D—Dover, 1912. L—London & North-Western, 1912. M—Midland, 1912. N—North London, 1912. Y—Yorkshire, 1912.

THE PRICES OF SOME HOME RAILWAY STOCKS April 1912—September 1913.





# OFFICIAL TRAFFIC RETURNS.

<b>Barry.</b> Week ending September 6 1913. 1912. Passengers, etc. £11,115 £11,115 Goods, etc. £11,115 £11,115 Aggregate for 36 weeks £11,115 £11,115 Miles open 11,115 11,115		
<b>Caledonian.</b> Week ending September 7 1913. a 1912. Passengers, etc. £48,700 £48,700 Goods, etc. £5,500 £5,500 Aggregate for 36 weeks 5,552,400 5,247,400 Miles open 5,552,400 5,247,400		
<b>Cambrian.</b> Week ending September 6 1913. 1912. Passengers, etc. £5,451 £5,451 Goods, etc. 3,019 3,024 Aggregate for 36 weeks £257,223 £257,223 Miles open 300 300		
<b>Central London.</b> Week ending September 6 1913. 1912. Passengers, etc. £11,115 £11,115 Goods, etc. £11,115 £11,115 Aggregate for 36 weeks £11,115 £11,115 Miles open 11,115 11,115		
<b>City and South London.</b> Week ending September 6 1913. 1912. Passengers, etc. £11,115 £11,115 Goods, etc. £11,115 £11,115 Aggregate for 36 weeks £11,115 £11,115 Miles open 11,115 11,115		
<b>Dublin and South Eastern.</b> Week ending September 6 1913. a 1912. Passengers, etc. £205,615 £195,570 Goods, etc. 160 160 Aggregate for 36 weeks £11,025 £11,025 Miles open 11,025 11,025		
<b>Furness.</b> Week ending September 6 1913. 1912. Passengers, etc. £1,423 £1,423 Goods, etc. £1,423 £1,423 Aggregate for 36 weeks £1,423 £1,423 Miles open 1,423 1,423		
<b>Glasgow and South Western.</b> Week ending September 6 1913. a 1912. Passengers, etc. £20,300 £17,900 Goods, etc. £1,100 £1,100 Aggregate for 36 weeks 1,374,800 1,267,400 Miles open this week £5,500 36 weeks £107,400		
<b>Great Central.</b> Week ending September 6 1913. a 1912. Passengers, etc. £27,500 £25,100 Goods, etc. 75,000 72,700 Aggregate for 36 weeks 4,108,500 3,537,500 Miles open 4,108,500 3,537,500		
<b>Great Eastern.</b> Week ending September 6 1913. 1912. Passengers, etc. £129,500 £125,000 Goods, etc. 4,025,900 3,952,400 Aggregate for 36 weeks 4,025,900 3,952,400 Miles open 4,025,900 3,952,400		
<b>Great Northern.</b> Week ending September 6 1913. 1912. Passengers, etc. £75,100 £71,500 Goods, etc. £75,100 £71,500 Aggregate for 36 weeks 4,547,200 4,228,000 Miles open 1,032 1,008		
<b>Great Northern (Ireland).</b> Week ending September 6 1913. 1912. Passengers, etc. £11,350 £11,350 Goods, etc. £11,350 £11,350 Aggregate for 36 weeks £11,350 £11,350 Miles open 11,350 11,350		
<b>Great North of Scotland.</b> Week ending September 6 1913. 1912. Passengers, etc. £12,570 £12,570 Goods, etc. £12,570 £12,570 Aggregate for 36 weeks £12,570 £12,570 Miles open 12,570 12,570		
<b>Great Southern and Western.</b> Week ending September 6 1913. 1912. Passengers, etc. £11,115 £11,115 Goods, etc. £11,115 £11,115 Aggregate for 36 weeks £11,115 £11,115 Miles open 11,115 11,115		
<b>Great Western.</b> Week ending September 6 1913. 1912. Passengers, etc. £155,000 £160,000 Goods, etc. £155,000 £160,000 Total for week £310,000 £320,000 Aggregate for 36 weeks 10,434,000 10,434,000 Miles open 3,007 3,007		
<b>Highland.</b> Week ending September 6 1913. 1912. Passengers, etc. £12,512 £9,778 Goods, etc. 3,754 £13,653 Aggregate for 36 weeks £13,653 £13,653 Miles open 13,653 13,653		
<b>Hull and Barnsley.</b> Week ending September 6 1913. 1912. Passengers, etc. £1,400 £1,400 Goods, etc. £1,400 £1,400 Aggregate for 36 weeks £1,400 £1,400 Miles open 1,400 1,400		
<b>Lancashire and Yorkshire.</b> Week ending September 6 1913. 1912. Passengers, etc. £6,350 £6,350 Goods, etc. £6,350 £6,350 Aggregate for 36 weeks £6,350 £6,350 Miles open 6,350 6,350		
<b>London, Brighton and South Coast.</b> Week ending September 6 1913. 1912. Passengers, etc. £34,855 £34,855 Goods, etc. £34,855 £34,855 Aggregate for 36 weeks £34,855 £34,855 Miles open 34,855 34,855		
<b>London Electric.</b> Week ending September 6 1913. 1912. Passengers, etc. £489,943 £489,943 Goods, etc. £489,943 £489,943 Aggregate for 36 weeks £489,943 £489,943 Miles open 489,943 489,943		
<b>London and North Western.</b> Week ending September 6 1913. 1912. Passengers, etc. £179,000 £170,000 Goods, etc. 155,000 172,000 Aggregate for 36 weeks 11,186,000 10,434,000 Miles open 11,186,000 10,434,000		
<b>London and South Western.</b> Week ending September 7 1913. 1912. Passengers, etc. £79,900 £80,900 Goods, etc. £79,900 £80,900 Aggregate for 36 weeks 3,456,400 3,437,600 Miles open 967 967		
<b>Metropolitan.</b> Week ending September 6 1913. 1912. Passengers, etc. £14,215 £14,215 Goods, etc. £14,215 £14,215 Aggregate for 36 weeks £14,215 £14,215 Miles open 14,215 14,215		
<b>Metropolitan District.</b> Week ending September 6 1913. 1912. Passengers, etc. £14,215 £14,215 Goods, etc. £14,215 £14,215 Aggregate for 36 weeks £14,215 £14,215 Miles open 14,215 14,215		
<b>Midland.</b> Week ending September 6 1913. 1912. Passengers, etc. £11,115 £11,115 Goods, etc. £11,115 £11,115 Aggregate for 36 weeks £11,115 £11,115 Miles open 11,115 11,115		
<b>Midland Great Western of Ireland.</b> Week ending September 6 1913. 1912. Passengers, etc. £11,115 £11,115 Goods, etc. £11,115 £11,115 Aggregate for 36 weeks £11,115 £11,115 Miles open 11,115 11,115		
<b>North British.</b> Week ending September 6 1913. a 1912. Passengers, etc. £34,200 £31,800 Goods, etc. 61,700 £125,600 Aggregate for 36 weeks £518,400 3,254,400 Miles open 518,400 3,254,400		
<b>North Eastern.</b> Week ending September 6 1913. a 1912. Passengers, etc. £14,644 £14,644 Goods, etc. £14,644 £14,644 Aggregate for 36 weeks £14,644 £14,644 Miles open 14,644 14,644		
<b>North London.</b> Week ending September 6 1913. 1912. Passengers, etc. £4,844 £4,844 Goods, etc. £4,844 £4,844 Aggregate for 36 weeks £4,844 £4,844 Miles open 4,844 4,844		
<b>North Staffordshire.</b> Week ending September 6 1913. 1912. Passengers, etc. £9,100 £9,100 Goods, etc. £9,100 £9,100 Aggregate for 36 weeks £9,100 £9,100 Miles open 9,100 9,100		
<b>Rhymney.</b> Week ending September 7 1913. 1912. Passengers, etc. £11,115 £11,115 Goods, etc. £11,115 £11,115 Aggregate for 36 weeks £11,115 £11,115 Miles open 11,115 11,115		
<b>South Eastern and South Coast.</b> Week ending September 6 1913. 1912. Passengers, etc. £103,971 £103,971 Goods, etc. £103,971 £103,971 Aggregate for 36 weeks £103,971 £103,971 Miles open 103,971 103,971		







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## COMPANY NOTICES.

## Bilbao River and Cantabrian Railway Company, Limited.

Notice is hereby given that an Extraordinary General Meeting of the Bilbao River and Cantabrian Railway Company, Limited, will be held at the Company's Office, 15, Abchurch Lane, London, E.C. 4, on Thursday, the 26th September, 1913, at 2 o'clock, for the purpose of considering and voting upon the following Resolutions:

15th September, 1913.

## The Buenos Ayres Great Southern Railway Company, Limited.

THE Buenos Ayres Great Southern Railway Company, Limited, has the honor to inform that the following Resolutions were passed at the Extraordinary General Meeting of the Company, held at the Company's Office, 15, Abchurch Lane, London, E.C. 4, on Thursday, the 26th September, 1913, at 2 o'clock:

## TENDERS INVITED.

## The Great Indian Peninsula Railway Company.

Tenders are invited to remove the following material from the site of the proposed extension of the Great Indian Peninsula Railway, near the station at ...

## East Indian Railway Company

THE East Indian Railway Company has the honor to inform that the following Resolutions were passed at the Extraordinary General Meeting of the Company, held at the Company's Office, 15, Abchurch Lane, London, E.C. 4, on Thursday, the 26th September, 1913, at 2 o'clock:

(1) Wheels and Axles.

(2) Locomotives.

(3) Glass.

(4) Paints, etc.

The Company has the honor to inform that the following Resolutions were passed at the Extraordinary General Meeting of the Company, held at the Company's Office, 15, Abchurch Lane, London, E.C. 4, on Thursday, the 26th September, 1913, at 2 o'clock:

Nichols Lane, London, E.C. 4.  
15th September, 1913.

## London and North Western and Great Western Joint Railway.

THE Directors of this Company are pleased to inform that the following Resolutions were passed at the Extraordinary General Meeting of the Company, held at the Company's Office, 15, Abchurch Lane, London, E.C. 4, on Thursday, the 26th September, 1913, at 2 o'clock:

The Company has the honor to inform that the following Resolutions were passed at the Extraordinary General Meeting of the Company, held at the Company's Office, 15, Abchurch Lane, London, E.C. 4, on Thursday, the 26th September, 1913, at 2 o'clock:

## The Barry Railway Company.

THE Barry Railway Company has the honor to inform that the following Resolutions were passed at the Extraordinary General Meeting of the Company, held at the Company's Office, 15, Abchurch Lane, London, E.C. 4, on Thursday, the 26th September, 1913, at 2 o'clock:

The Company has the honor to inform that the following Resolutions were passed at the Extraordinary General Meeting of the Company, held at the Company's Office, 15, Abchurch Lane, London, E.C. 4, on Thursday, the 26th September, 1913, at 2 o'clock:

The Company has the honor to inform that the following Resolutions were passed at the Extraordinary General Meeting of the Company, held at the Company's Office, 15, Abchurch Lane, London, E.C. 4, on Thursday, the 26th September, 1913, at 2 o'clock:

## POSITIONS VACANT.

## Indian State Railways.

By Order of the Secretary of State for India, the following positions are open for appointment:—  
1. Assistant Secretary of State for India.  
2. Assistant Secretary of State for India.  
3. Assistant Secretary of State for India.  
4. Assistant Secretary of State for India.  
5. Assistant Secretary of State for India.  
6. Assistant Secretary of State for India.  
7. Assistant Secretary of State for India.  
8. Assistant Secretary of State for India.  
9. Assistant Secretary of State for India.  
10. Assistant Secretary of State for India.

The following positions are open for appointment:—  
1. Assistant Secretary of State for India.  
2. Assistant Secretary of State for India.  
3. Assistant Secretary of State for India.  
4. Assistant Secretary of State for India.  
5. Assistant Secretary of State for India.  
6. Assistant Secretary of State for India.  
7. Assistant Secretary of State for India.  
8. Assistant Secretary of State for India.  
9. Assistant Secretary of State for India.  
10. Assistant Secretary of State for India.

15th September, 1913.

15th September, 1913.

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15th September, 1913.

15th September, 1913.

15th September, 1913.

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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, SEPTEMBER 20, 1913.

No. 12.

## PRINCIPAL CONTENTS.

## THE ARGENTINE RAILWAY AMALGAMATION.

The subject of the amalgamation of the Buenos Ayres Great Southern Railway and the Buenos Ayres Western Railway has been the subject of much discussion in the Argentine public and press, and it is now before the Argentine Congress in the Session then sitting and that there was a probability that it would be sanctioned somewhere about the end of 1912. The Bill was in fact passed by the Senate, but it was not dealt with by the Chamber of Deputies. The reasons for this were stated to have nothing whatever to do with the merits or demerits of the Bill. The measure was again included in the list of subjects to be dealt with by the Chamber of Deputies in the Session which began in May last. The chairman pointed out that this delay, though disappointing, need not be taken in any way to mean that

of the considerable delay it had been assumed that no serious difficulties in the way of this proposed fusion had arisen, and even now no definite explanation of the decision to drop the proposal is forthcoming. The annual meetings of both companies fall to be held in about a month's time, and it is the intention of the Boards of the two companies to reserve their explanations for that occasion. In the annual report of the Buenos Ayres Great Southern Company for the year ended June 30, 1912, the following reference was made to the amalgamation proposals: "The company's property was visited and inspected by two of the directors who discussed thoroughly all matters of interest with the Government authorities and the local representatives of the company. During these discussions the advisability of amalgamating this company with the Buenos Ayres Western Railway at the present time was suggested and as the executive authorities showed themselves favourably disposed, it was decided to formally approach the Congress on the subject. The petition is now before the Chambers for decision, and should they sanction it on favourable terms the matter will be brought before the shareholders for their approval. This subject has been under consideration for many years, and it appears to the Boards of the two companies that the present is a favourable opportunity to give effect to the proposal, thus improving the position and stability of both companies." A corresponding reference was made to the matter in the annual report of the Buenos Ayres Western Railway for the same period. The petition of the two companies had, indeed, been jointly presented to the Argentine Congress on July 26, 1912, so that already considerably over a year has elapsed since the first step was taken to carry out the proposal. The latest official reference to the subject was made on July 19 last at the special meeting of the shareholders of the Buenos Ayres Great Southern Railway, called to sanction the increase of capital by £5,000,000. We may recall that on that occasion the chairman explained that they had been advised by their representatives in Buenos Ayres that there was every reason to hope that the Bill for amalgamation would be included in the list of matters to be dealt with by the Argentine Congress in the Session then sitting and that there was a probability that it would be sanctioned somewhere about the end of 1912. The Bill was in fact passed by the Senate, but it was not dealt with by the Chamber of Deputies. The reasons for this were stated to have nothing whatever to do with the merits or demerits of the Bill. The measure was again included in the list of subjects to be dealt with by the Chamber of Deputies in the Session which began in May last. The chairman pointed out that this delay, though disappointing, need not be taken in any way to mean that

DIVIDEND ANNOUNCEMENTS.

## THE RAILWAY TIMES.

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PUBLISHED EVERY SATURDAY.

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Advertisements of which proof is desired should reach us by the second post on Wednesday.

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in fact there was no opposition to it worth speaking of. The only serious drawback, namely, its interference with the financial arrangements of the companies, and compelled the Buenos Ayres Great Southern to call its shareholders together in July last to sanction an increase of capital of £5,000,000, of which, however, £2,650,000 only was offered to the shareholders in the form of 4 per cent. Extension shares, 1914. It was not suggested for a moment that even this issue would meet in full the capital requirements of the company, but it was a means of providing for more immediate needs. The conclusion has not unnaturally been drawn that the companies have abandoned their intention of carrying out this amalgamation in consequence of the onerous requirements of the Argentine Government. Considering the advantages which were being sought and the various occasions on which the companies have decided on a scheme of this sort, it may be taken for granted that the Boards of the two companies have not come to the decision to abandon the scheme except on account of very serious difficulties. It is not an uncommon thing for a Government, under similar circumstances, to seek to impose serious additional obligations or encumbrances as the price of its sanction to amalgamation, and this is the most likely thing to have happened in the Argentine Republic, where the conditions are by no means so favourable to the capitalist as they are generally supposed to be. If the truth were known it would probably be found that they are even less satisfactory than they are here, and that is saying a great deal. The shareholders of the two companies may be consoled in their disappointment by some very important reflections. Embodied in the amalgamation scheme is a very considerable programme of extensions which we presume the companies will not proceed with now that their fusion scheme is being dropped. It may also be hoped that many of the economies which were anticipated as the outcome of the amalgamation may be effected by other means, and without incurring the risks associated with a more complete fusion of interests.

### THE CANDLE UNDER A BUSH.

It is incomprehensible that British railway companies have proved the efficacy of newspaper advertising to make their reports altogether neglect the use of the news column on questions of great importance to them, save in the public. In the last dispute between the North Eastern Company and its employees, the general manager showed full recognition of the use of the Press for placing the company's case before the public, and a similar use of the same medium has been made by the London and North Western this week in the matter of the refusal of its Liverpool employees to handle the goods affected by the troubles in Dublin. That railway managers are not inclined to restrict their reports upon them in other ways is shown by the complete manner in which the Liverpool branch of the London and North Western Company attacked the Midland Company after the Board of Trade inquiry into the Airedale collision. Allegations have been freely made to the effect that the railway companies are doing nothing towards carrying out the recommendations of the Board of Trade, and the result of his inquiry into the Hawes Junction collision on the same railway, and it is very gratifying to be able to hear that the company had not only made exhaustive researches into the feasibility of the recommendations, but had taken steps to carry out all that were found to be practicable at the time, and in addition had adopted other precautions not suggested by the Inspector's recommendations. It was very gratifying to hear of this information, that the most forcible criticisms have been unjustifiably levelled at the Midland Company, and one to be here to mention that the company in a circular contributed by a so-called railway correspondent of the *Manchester Guardian* in an attempt to show that the

public were under an illusion in supposing that the Board of Trade exercised some measure of real influence on the safety of railways. The writer of the article observed:—

Recent accident reports give two very typical examples of the ineffectiveness of these official suggestions. Such collisions as those at Hawes Junction and Willesden Junction have induced the inspecting officers to suggest the installation of track circuits, as mentioned in the *Morning Post* a few days ago. If any reader of these lines desires to waste his time for a few weeks, let him make a pilgrimage over the railways of England in search of those same track circuits. He will see on his journey a good deal that is interesting and instructive, but not that which he came out to see. The railway companies may plead with perfect justice that the installation of track circuits on their main lines would cost a great deal of money.

That the assertion of inaction on the part of the Midland management is uncalled for is shown by Sir Guy Granet's statement that, following the Hawes Junction accident in December, 1910, the directors decided to at once introduce on the express passenger lines a system of track-circuiting and rotary interlocking block, with the result that there are to-day 374 cases in which the line has been track-circuited between the home and starting signals, and 379 cases in which the rotary interlocking block system has been installed. Five hundred track circuits and about 900 rotary block installations remain to be carried out. The question may be asked how is it that a "railway correspondent" and the public generally remained in ignorance of the commendable decision of the directors. The reply is that the company failed to take advantage of the ordinary channels of publicity. Apparently the only intimation that was given was contained in the following extract taken from the half-yearly report presented at the summer meeting of shareholders in 1911:—"Special allocations.—The directors have been enabled to make special allocations out of revenue of £30,000 for reconstructing bridges, £50,000 for alterations of signalling equipment, and £40,000 for carriage renewal." The Chairman, in moving the adoption of the report, repeated the foregoing statement, and added that the directors felt bound in these richer times to look round and see where things wanted improving and strengthening, and in the directions he had indicated the directors were satisfied that the money would be well spent. We do not suppose that there was any motive in restricting to such a bald announcement so momentous an innovation. It could hardly be that the Midland Company was influenced by a desire not to force the hands of other companies. The lesson of the incident, both for the Midland and other railways, is that directors and managers need to be educated in the adoption of publicity in the matter of public relations. On numerous occasions we have urged the wisdom of such a policy. If British managers had studied what has been done in this direction in the United States, our advice would not have been given in vain. In that country, the wave of agitation which swept over the country some years ago and crystallized into antagonism toward business was felt keenly by the railroads, and in meeting the situation they moved to get in closer touch with the public. Departments of public relations were established by some of the roads, as well as by many of the industrial and manufacturing concerns, and public service corporations. Many of the railroads and other interests established departments of publicity, which handle largely matters of public relations, and, with the co-operation of the Press, endeavour to effect a fair understanding between the business interest on the one side, the editor and the public on the other. Other changes, which the publicity department have brought about in the relations between the newspapers and the companies are to be seen in the furnishing of information concerning accidents and labour agitations. According to an address given by the publicity representative of the Baltimore and Ohio Railroad before the Virginia Press Association in June last, the resort to publicity has in certain respects exercised more than a remedial effect.



# MONEY AND STOCK MARKETS.

SETTLEMENT DAYS.

CONSOLS. WEEKLY PAY. OCT. 1.

Continuation Days.	Ticket Days.	Pay Day.
Mines ..... Sept. 23	Mines ..... Sept. 24	Sept. 26
General ..... " 24	General ..... " 25	
Mines ..... Oct. 1	Mines ..... Oct. 13	
General ..... " 13	General ..... " 14	Oct. 15
Mines ..... " 27	Mines ..... " 28	
General ..... " 28	General ..... " 29	Oct. 30

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Same Week Last Year.
Bank's Coin and Bullion	£42,000,000	£42,434,103	£41,992,185
Total Reserve	£43,790,428	£44,035,248	£43,004,100
Proportion of Reserve to Liabilities	60.75 p.c.	60.54 p.c.	50.64 p.c.
Notes in Circulation	£27,000,000	£29,049,255	£28,347,005
Bank Rate*	4½ p.c.	4½ p.c.	4 p.c.
Open Market Discount.	3½ p.c.	3½ p.c.	3½ p.c.
Bankers' Clearing House Silver Bars, per oz. (spot)	£287.283.000	£275.500.000	£3,200,000
Consols (account)	28½d.	27½d.	26½d.
French 3 per cent. (acc.)	89½. 50c.	84½. 50c.	91½. 50c.
Paris Cheque exchange.	25½. 25c.	26½. 24½c.	25½. 24½c.
New York 90 days ditto	\$4.82½	\$4.82½	\$4.81½
Rio de Janeiro exchange	16½. 1d.	16½. 1d.	16½. 1d.
Valparaiso 90-day exch'e	9. 1d.	9. 1d.	9. 1d.
Calcutta transfers	18. 4½d.	18. 4½d.	18. 4½d.
Hong Kong transfers	28. 1d.	18. 11½d.	28. 1d.
Shanghai transfers	28. 9½d.	28. 9½d.	28. 1d.

	BANK RATE	TRADES	100S TO DATE
2 per cent. Jan. 2, 1908	4½	per cent. Nov. 20, 1911	4½
54 " Jan. 16, 1908	4½	" Dec. 3, 1909	4½
4 " Jan. 23, 1908	4½	" Jan. 3, 1910	4½
3 " Mar. 3, 1908	4½	" Jan. 19, 1910	4½
3½ " Mar. 19, 1908	4½	" Feb. 10, 1910	4½
2 " May 28, 1908	4½	" Mar. 17, 1910	4½
2½ " Jan. 14, 1909	4½	" June 1, 1910	3
3 " Apr. 14, 1909	3	" June 8, 1910	1
3 " Oct. 7, 1909	4	" Sept. 29, 1910	5
4 " Oct. 14, 1909	5	" Oct. 1910	4½

This week's Bank Return afforded an agreeable surprise. Notwithstanding that over £1,000,000 in gold went abroad during the week, the reserve was diminished by less than £74,000. About £700,000 in coin was returned to the Bank, and the note circulation contracted by £353,000. The ratio of the reserve to liabilities at 60.75 per cent. is even slightly higher than a year ago. An interesting and notable change on the week is a further reduction of "Other Securities" to £27,308,000, which is a relatively low figure, and indicates that the Bank is in a favourable position to make loans to the market if called upon to do so later in the autumn. Public Deposits increased by £621,000, and Other Deposits were reduced by £925,000 to £42,600,000. Our full comparison of the figures for the week with those of the previous week and the corresponding week a year ago, will be found elsewhere. They show that the Bank is in a strong position, and the anxiety felt in some quarters a few weeks ago as to the development of the monetary situation is being gradually allayed. The outlook is, however, by no means clear; but it seems probable that any serious stringency will be escaped. The final settlement of the Balkan wars will be a favourable influence in re-establishing confidence on the Continent, and a gradual return of much of the money that has long been hoarded may be expected.

During the past week there has been a slightly larger volume of business in the Stock Markets, and prices have advanced in some directions. Investors are being impressed by the more reassuring monetary outlook, and although labour troubles have provided a constant check on certain markets there has been a tendency toward higher prices.

generally have been firm in tendency. The market for Home railway stocks has, however, been completely under the influence of the labour situation, and with its kaleidoscopic changes from day to day has varied sharply. In Colonial railways interest has centred in Canadian Pacific shares, and the demand for these has been encouraged by the excellent reports which have also had a favourable influence on Grand Trunks. Canadian Pacific shares have risen to 230½, and they are still a strong market. United States Railways have also been more largely bought than for some time past, and anticipations of further improvement are entertained in some quarters. Foreign railways have, in general, been firm, and reflect the mild optimism which has permeated the markets. Whether this sanguine outlook is justifiable has yet to be proved. It is quite possible that for a sustained revival we may yet have to wait until the effect of the unfortunate events of the past few months is more clearly

Last Saturday business was on a small scale, although there was some show of activity in the American market; a sharp rise overnight in Wall Street providing the impetus. Consols were firmer and rose ½ to 73½. Home Rails were almost completely stagnant, such movements as took place being downward. Canadian Pacific shares advanced and closed at 236, or 3½ points above the closing price on Friday. On Monday some reaction supervened, although Consols again rose. Home Rails, worried by labour unrest, fell almost without exception from ½ to ¾. United States railways, however, showed some improvement, and Canadian Pacific held their rise of the previous day. On Tuesday labour troubles loomed portentously, and, although Consols put on an ½, Home Rails were acutely depressed. London and North Western fell 1½, Midland Deferred and most of the other important lines dropped 1. In other departments the tendency was undecided, and markets generally were in a nervous condition. The drop in Home Rails made many of the stocks look cheap, and on Wednesday dealers discovered that, after all, threats of a general strike were not likely to be fulfilled. Those who had sold were early buyers, and the market showed considerable firmness. Consols registered another gain, and a rise of 3-16 brought the price to 73½. Mexican affairs seemed to promise some improvement. The following day markets were characterised by a good deal of irregularity, but Home Rails again rallied on better news from the centres where labour troubles had been most feared. It was understood that the leaders of the railway men were averse from further difficulties at present, and after closing time it was reported that the Executive of the Railwaymen's Union had declined to accede to a demand from Birmingham that a national strike should be declared. Among other movements was a relapse in Canadian Pacific of 2, bringing the price to 230. Grand Trunks were also weak, but the falls in this case did not exceed ½. The markets were cheered by a strong Bank Return, and at the close were

firm. Yesterday business was of small proportions. To-day the Stock Exchange will be closed, and as the Settlement begins on Tuesday there was little disposition to enter on new bargains, especially in view of the disturbed labour conditions. Consols, in contrast with their recent firmness, were inclined to be dull. Home Rails, in view of what was thought to be a more hopeful labour outlook, were better at first, but later dullness supervened. Disquieting reports of the spread of strikes at railway centres were discussed, and the market was apprehensive of an omnibus strike. There were, however, few changes on the day. Brighton Deferred, Midland and North Western fell ½, and Lancashire and Yorkshire 1. United States Railways were generally slightly higher, Unions closing at 105, and the others at 104 and 103.



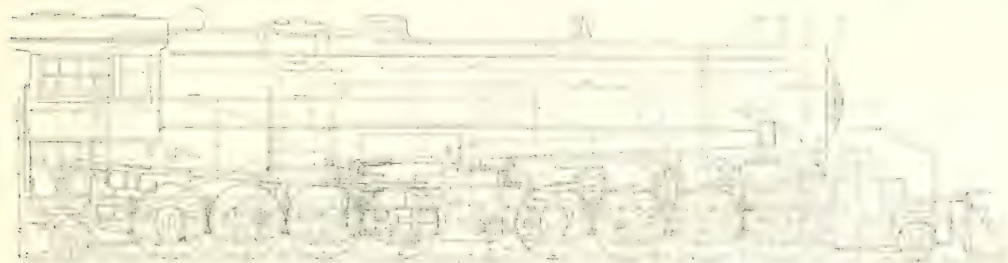
# MIKADO AND MALLET TYPE LOCOMOTIVES FOR THE NORTHERN PACIFIC RAILWAY.

The Mikado and Mallet types of locomotives have been added to the Northern Pacific Railway, the Yellowstone, Montana and Rocky Mountain divisions. The Rocky mountains are crossed through the Mullan tunnel,

hauling 1,800 tons with a Mallet pilot between Bozeman and Helena. The Mikados have a tractive power of 58,000 lb. Previous to receiving the Mikados, trains of 1,400 tons were



Mallet Compound Locomotive of Northern Pacific Railway.



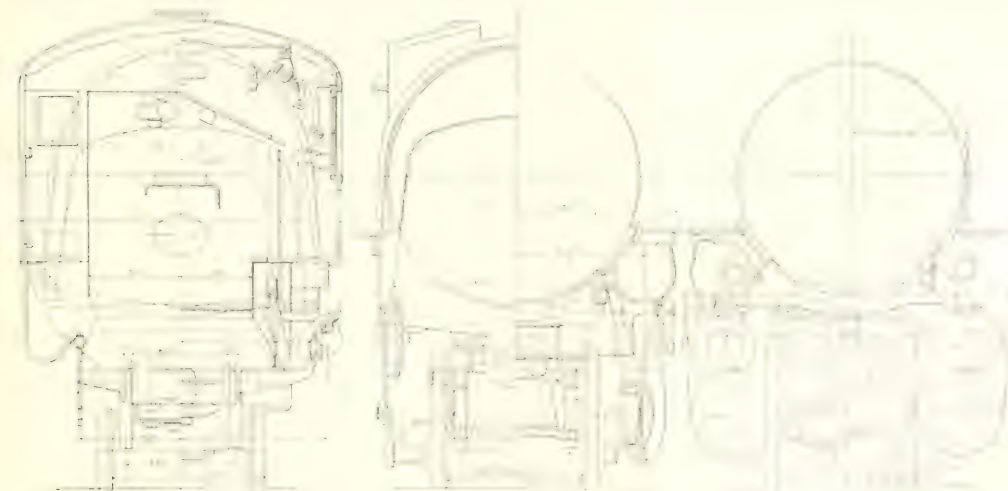
Elevation of Mallet Compound Locomotive of Northern Pacific Railway.

west of Helena, Montana, at a maximum elevation of 5,548 ft. above sea level. The Yellowstone division, Mandan, North Dakota, to Billings Montana, is 441 miles long and has a maximum gradient of 1 in 100 against both east and west bound traffic. The Mikado engines are at present hauling 1,800 tons over this district at an average speed of from eight to ten miles per hour.

On the Montana division, Billings to Helena, a distance of 239 miles, there is a ruling gradient westbound from Livingston

hauling over this territory by Mikado engines using the same type of pilot. The Mikados used for this purpose have cylinders 24 by 30 ins., working with saturated steam at 200 lbs., the weight on the drivers being 203,000 lb., giving a tractive power of 46,000 lb. The new Mikados have increased the train loads on this division by 28.0 per cent., resulting in a considerable saving in coal and water per thousand ton miles.

The Rocky Mountain division, from Helena, to Paradise, is



Cross Sections of Mallet Compound Locomotive of Northern Pacific Railway



60 miles long. The balance of the division has a gradient against eastbound traffic from Missoula to Garrison, sixty-eight miles.

hauling 2,000 tons from Missoula to Garrison at an average speed of sixteen miles per hour. The old Mikado, previously referred to, hauls 2,200 tons at an average speed of twelve

pilot is used. On this division the new Mikados are making 41,000 ton mile hours as against 26,400 for the older Mikados; an increase of 57.6 per cent.

Review, Chicago, to whom we are indebted for these notes, the extensive use of Mikado engines on the Northern Pacific Railway. This road is using to-day more Mikado locomotives than any other road in the United States. The original Mikado herein referred to was first built by the American Locomotive Company in 1904, and up to now 270 Mikado locomotives have been built for this road by the same builders. The new Mikados are a development of the original design. Both the Mikado and Mallet are the product of the long experience of the American Locomotive Company in the development of powerful engines. The application of this experience to the railroad's specific requirements was directed by the



Locomotive of Mikado Type of Northern Pacific Railway

Mallet that formerly used by one of the original Mikado class and the older Mallet pilot handling 1,350 tons. This is an increase of 29.6 per cent. in train loads with no increase in coal consumption.

The original Mallet is a 2-6-6-2 type having cylinders 21 and 33 by 32 ins., working with saturated steam at 200 lbs., the weight on the drivers being 316,000 lbs., giving a tractive power of 67,500 lbs. The new Mallets are used on the Rocky Mountain and Seattle divisions, four coal burners being on the Rocky Mountain division and six oil burners on the Seattle division. Gradients and trains on the Rocky Mountain division are described above, these engines being used as pilots between Helena and Blossburg.

The Seattle division, from Ellensburg to Auburn, Washing-

ton, is a 100-mile division, the locomotive is a 2-6-6-2 type.

The Mikado design combines a Schmidt superheater, firebox arch, smoke-consumer tubes in the sides of firebox and a 30-inch combustion chamber. Included in the design are the builder's latest type of valve stem guide, piston-rod extension guide, outside-steam pipes, power reverse gear, and of outside bearing trailing truck.

Six of the Mallet engines were designed for oil burning and four for coal burning. All of these engines include a Schmidt superheater, the builder's latest type valve stem guides, the improved piston-rod extension guide on the high-pressure cylinders, reverse gear, and their system of compounding. The four coal-burning engines were also equipped with a firebrick arch.

The Mallet engines designed for oil burning differ from the

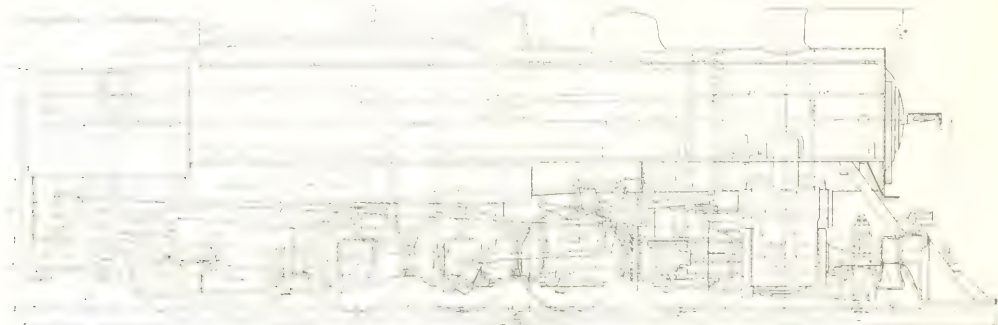


Diagram of Mikado Locomotive of Northern Pacific Railway

Locomotive of Mikado Type of Northern Pacific Railway. The diagram shows the internal components of the locomotive, including the cylinders, pistons, rods, and the complex valve gear mechanism. The diagram is labeled with various parts and dimensions.

The diagram shows the internal components of the locomotive, including the cylinders, pistons, rods, and the complex valve gear mechanism. The diagram is labeled with various parts and dimensions.

Part	Weight (lbs.)
Cylinders	1,100
Pistons	1,100
Rods	1,100
Valve gear	1,100
Trailing truck	1,100
Firebox	1,100
Smokestack	1,100
Water tank	1,100
Coal bunker	1,100
Locomotive	1,100
Freight car	1,100
Passenger car	1,100
Engine house	1,100
Roundhouse	1,100
Shop	1,100
Office	1,100
Engineer's house	1,100
Fireman's house	1,100
Conductor's house	1,100
Trainman's house	1,100
Locomotive	1,100
Freight car	1,100
Passenger car	1,100
Engine house	1,100
Roundhouse	1,100
Shop	1,100
Office	1,100
Engineer's house	1,100
Fireman's house	1,100
Conductor's house	1,100
Trainman's house	1,100

## RAILWAY SUBJECTS AT THE BRITISH ASSOCIATION.

		Soft coal
Heat, surface, fire-box .....	327 sq. ft.	200 sq. ft.
		1,200 sq. ft.
		35 sq. ft.
		1,591 sq. ft.
		810 sq. ft.
Driving wheels, diameter .....	57 ins.	63 ins.
Truck wheels, front, diameter ..	30½ ins.	33½ ins.
Truck wheels back, diameter ..	30½ ins.	42 ins.
Weight on driving wheels ....	401,000 lb.	240,500 lb.
Total engine .....	402,000 lb.	320,000 lb.
Total engine and tender ....	655,000 lb.	
Weight on tender .....		10 tons, 6 ins.
Total engine and tender ....	83 ft. 6½ ins.	68 ft. 2½ ins.
Tender, capacity, coal .....	16 tons	10 tons

## FOREIGN-CONTROLLED RAILWAYS IN CHINA.

railways in China are as appended:—England 770 miles (three railways), Belgium 150 miles (one railway), Japan 755 miles (three railways). Only the Pekin-Chanka-kao Railway is under the sole control of a Chinese Company, who, however, receive aid from the Government. The shares which the Chinese Government holds in the Pekin-Mukden and Pekin-Hankow Railways are in name only.

## NEW DEVICE FOR HANDLING MAIL BAGS.

Lawrence, Kansas, has successfully demonstrated the efficiency of a new, automatic device which he has invented for loading and unloading mail bags of any weight while a train is in motion without the clerks going near the door. The tests given of his device also included the locking of the door of the mail van, rendering it proof against robbers. The demonstrations at Washington have been witnessed by officials

particularly of the Post Office committees of the House and Senate, representatives of railroads and others, including railway mail clerks. The latter have naturally been interested, for few are aware of the dangers to which they are exposed from the present method of tossing out sacks of mails through the car door while flying past a station or attending the capture of the suspended pouch from the catcher arm as it swings outside the swaying car. A company with a capital of \$4,000,000 has been formed to install the services, and has made an offer to the Government to equip the postal cars, build the receiving troughs and install the cranes on condition that it is allowed a reasonable percentage of the saving which the invention will effect and an allowance for increased facilities. The savings are anticipated in postal clerk hire and lost time, disabled employees, sick pay and death benefits, while more mail matter can be handled, and much more expeditiously. It is stated that the officials are puzzled at the company not offering to sell the device at a high price, or charging an excessive rental.

## Future of the Panama Railroad.

military board, and upon experience with the road itself with for maintenance. The steamship line and the railroad, both rise trade through the canal.

Engineering Section of the meeting of the British Association

of electric traction over steam as regarded urban and suburban lines was generally admitted. Debatable ground was reached when the question of main line traffic was considered. Here the process of overcoming opposition, which had had to be gone through in all applications of electricity, had only just begun. He proceeded:—

Will it lead to the same result, or will the electrician have to confess himself beaten by the steam locomotive? The answer each one of us would give to this question must necessarily be biased by our early training. Let us, then, try to forget for a moment that we are engineers, and let us put out of our minds all questions of mechanical or electrical detail, focussing our thoughts merely on what we see going on all around us.

Year by year more lines are being electrified. Some are failures; but the very fact that in spite of these failures the process of electrification is going on, shows that the failures are remediable. In some cases it is easy to understand why a line should be electrified. If fuel is dear, if the trains must be heavy and frequent, if there are steep grades and long tunnels, then steam is at a disadvantage and electricity can beat it easily. But electrification is not limited to cases where there are such obvious advantages. We see a military State like Prussia electrifying a fairly long line where the traffic is not extremely heavy, where there are very gentle grades, and only few and short tunnels. Moreover, one of the stock arguments against electrification is that in case of war the whole system may be broken down by the enemy cutting the wires; yet this consideration, if it has any weight, does not deter a military State from experimenting with electric traction on a large scale.

We see suburban lines growing longer and longer, until they might almost be classed as short main lines, and we see the Swiss Government buying up water-powers with the object of utilising these powers in the electrification of its most important main lines. We see in America the electrification of large systems taking place, not only for passenger service, but for the goods service, comprising trains of 2,000 and more tons weight, and of goods yards, to the complete exclusion of steam. When we see that in all countries a vast amount of labour is devoted to, and capital is spent on, the electrification of main lines, we cannot but come to the conclusion that this new application of electricity is bound to progress.

The present tendency in electric traction, Prof. Kapp added, was in the direction of simplicity, in the sense that the mixing up of different types of current and dependence of one train on another was avoided. Only three types of current were used—viz., continuous, three-phase, and single-phase. Between the advocates of the three systems there had been waged a fierce battle, which he feared was still raging. But it was a futile war, for there was no such thing as a best system generally. One system was best for one set of conditions and another for another set. Thus the German railway engineers found that the single-phase system would suit them best, and they adopted it.

In an interesting speech on the above subject before the Engineering Section of the British Association meeting, Mr. F. W. LAMHURST discussed various systems by which the internal combustion engine was applied to railway traction, and by process of elimination the author deduced that for the conditions of British railways, at least, the most promising solution was found in a straightforward piece of engineering, in which all the main elements, the petrol motor, the gear-box, the jointed transmission shaft and the right angle drive, also the auxiliary electrical equipment were taken

scribed a recent development of the self-propelled railway coach in the form of a vehicle built by the Metropolitan Wagon Company and equipped with its power installation by the Daimler Company. The general lines of the coach, a 60ft. bogie—were described, and the installation was given as

function is mainly in starting and giving high acceleration, and three high-gear ratios, which are exclusively used for running at speed. The power is transmitted by clutches of the magnetic type. The right-angle transmission is fitted to a prolongation of one of the bogie axles, and consists of a bevel drive, in which the pinion on the tail shaft gears simultaneously into two crown-wheels on the axle, an alternative dog-clutch being arranged to bring one or the other into positive connection. By this means the reversal of the car is effected. The two units are disposed symmetrically on opposite sides of the vehicle, and drive on to opposite ends, so that the job is entirely symmetrical. The vehicle can be controlled from either end. The electric equipment consists of dynamos coupled direct to the tail ends of the respective engine crank-shafts and an accumulator battery, and serves both for starting the engines and for lighting purposes and driving an electric air-compressor to operate the air-brake.

Mr. LANCHESTER, President of the Institution of Mechanical Engineers, said that the motor-coach now in operation in America, and suggested that the future developments upon the lines indicated by Mr. Lanchester would lie between these two systems.

A paper prepared by Lord SHUTTLEWORTH introduced a discussion on inland waterways, by describing the recommendations of the Royal Commission, of which he was chairman, arrived at as the result of four years' work. British waterways, although a fine set existed, had remained unimproved since 1830. He was convinced that the result of step-by-step reforms would be that railway traffic itself would be increased by the development of the output of inland factories. He pointed out that the fact that the transfer of industries to the coast with subsequent loss of railway rates would be arrested.

Sir JOHN PUISER GRIFFITH, an engineering member of the Royal Commission, read a paper, in which he said that the fact that the transfer of industries to the coast with subsequent loss of railway rates would be arrested. He pointed out that the fact that the transfer of industries to the coast with subsequent loss of railway rates would be arrested. He pointed out that the fact that the transfer of industries to the coast with subsequent loss of railway rates would be arrested.

Mr. W. M. ACKWORTH contributed a paper, entitled "A Forward Canal Policy," in which his object was to show that canals as a means of transport were necessarily and inherently inferior to railways; that canals could not carry cheaper than railways if the total cost of carriage was taken into

and localities for whom canals were potentially available naturally had an interest in promoting their construction by public enterprise, as thereby they, paying only a proportion of the total cost of carriage, threw the remaining half of the cost on the public at large, and so not only reduced their expenses, but obtained a differential advantage over competitors to whom the railway only was accessible. A forward policy, therefore, could not be justified as in the interest of the community at large, and it rested upon those who urged the adoption of such a policy in any individual case to prove their right to secure for themselves a differential advantage at the cost of the whole community.

Mr. F. IMREY denied that the cost of traffic, taking all charges into consideration, was generally less on railways than on canals abroad. In Belgium the difference was 32 per cent. in favour of the canal.

Mr. G. R. JEBB (vice-president of the Institute of Civil Engineers) was satisfied, after having carefully studied this question for more than 25 years, that traders did not want new canals, but lower railway rates. There was not the slightest prospect of obtaining a reasonable return on the capital expended.

Mr. G. G. CHISHOLM said there was reason for regarding with suspicion this agitation for the expenditure of large sums of money. Reference had been made to the waterways of Germany, but they were not in any conceivable circumstances comparable with the waterways of this country.

Mr. NEVILLE CHAMBERLAIN said that the whole ground of railway opposition was that they were afraid of competition, and sympathy with the ratepayer was simulated to cover up railway companies' real grounds of objection. He wanted canals because he believed as a trader that he would get lower rates.

### AUSTRALIAN ELECTRIFICATION PROPOSALS.

SYDNEY.—The Minister of Works has announced that the construction of underground railways will be proceeded with as rapidly as possible. Progress is being made with the erection of the new generating station for the tramways and railways, designed by Mr. O. W. Brain, the electrical engineer to the New South Wales Government Railways and Tramways. Arrangements have been made for the accommodation of a plant which, when completed, would be capable of generating 10,000 horse-power for periods not exceeding two hours' continuous run, when the busy periods of the day demand it. In order to prevent the possibility of breakdowns, the unit system has been followed, the plant being designed so that any eight of the ten turbo-alternators can be connected up to the eight boiler units.

MELBOURNE.—Mr. E. P. Grove was expected to arrive at Melbourne about the middle of September to supervise the works in connection with the electrification of the Melbourne suburban lines on behalf of Mr. C. H. Merz. The electrical engineer of the Railways Department, Mr. Stone, will not take over responsibility for the lines until the scheme is complete. When the road is built, it will be a single-track line, with four main lines, and 344 swinging door bogie cars, lengthened to the standard size, ready for traffic. All the smaller fixed wheel carriages will have been eliminated. At present there are in service 128 "Tait" cars, and that number is to be increased by 257. Apart from the construction of the new cars and the lengthening operations, which are being carried out as expeditiously as possible, considerable work will be involved in altering the van compartments of a number of cars to the standard size. The walls of the power station buildings will be made of armoured cement. This work will be carried out locally. Mr. Merz has supplied the Commissioners with photographs showing the Buenos Ayres western power station, which is now being constructed on similar lines under his supervision. Mr. Merz is proceeding as rapidly as possible with the plans and specifications for the large shed to be erected at Flinders Street, Melbourne, for repair purposes, so that it may be used to equip the cars with the electrical apparatus.



## MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

Southcott and Christie Lines, Eastern Ry.

Ottoman Railway from Smyrna to Aden

Canadian Pacific Railway

Newmarket Harbour

Grand Trunk Railway  
Street Hotel, E.C., at 12.

## BRAZIL RAILWAY.

in Southern Brazil directly operated by the company) for the year 1912 as compared with the previous year are as follow:—

	1911.*	1912.	Inc. p.c.
Gross receipts ..	35,142,050\$089	39,173,971\$478	11.47
Working expenses ..	19,842,133\$171	22,454,985\$354	13.21

\* Including Thereza-Christina line.

expenses amounted to 57.31 per cent. of the gross receipts, increase of 0.88 per cent. The expenditure under the different headings shows the following comparison:—

	1911.	1912.	Inc. or dec. Per cent.
Administration .....	1,730,008\$495	1,988,208\$608	+14.8
Locomotion .....	8,308,973\$174	9,921,144\$041	+18.5
and works .....	5,942,075\$844	5,594,204\$955	-5.8

higher wages and salaries, and the increased price of coal.

Construction work on all new lines proceeded steadily, and, while no new mileage was brought into operation during the year, a section of 142 miles on the S. Francisco-Porto da Uniao extension and the important bridge over the Rio Uruguay

line was practically completed; work was carried on actively on the first section of 63 miles from Jaguarahyva to Salto

extension, and on the Itaipu Campinas link line. The works included in the programme of improvements to the lines and rolling stock, which are being carried out under the terms of the contracts with the Government, were pushed ahead as rapidly as possible. These works include the re-railing of several sections, the strengthening of bridges, stone ballasting, modifications of gradients, introduction of more powerful locomotives, and more suitable rolling stock. During the year

strengthened, several heavy gradients reduced, 38 locomotives, 110 passenger coaches, eight baggage cars, and 1,300 goods were put in to increase the number per mile and thereby 270 miles of new telegraph line constructed. There is every the steady growth of traffic will continue. The year was one

products ruled high and the development in trade continued. With this increased prosperity labour became scarce, and a general rise in wages took place, which seriously affected the cost of working.

Paulista and Mogiana Railways. The length of the Paulista line remained unchanged at 715 miles; the Mogiana Company

tively, as in the previous year have been declared by each company and considerable sums carried to reserve.

actively up to the end of the year, and ballasting and small line is now 220 miles. During 1912, although the operation

spite the heavy fall in the price of rubber, which forms about 38 per cent. of the total goods traffic, the gross receipts were well maintained, there being an increase of 1,031,815\$8737 for the first seven months of 1913 over the corresponding period of 1912. There are indications that the general development of Eastern Bolivia, hitherto impossible for want of easy means of communication with the markets of the world, will offset any reduction in the rubber traffic, and will enable the railway to continue to show satisfactory returns. The rapid fall in the price of rubber has dislocated the entire trade of the Amazon Valley; but, as has happened in other somewhat similar crises, merchants and producers should gradually

of the extension to Riberata in Bolivia has been commenced. This line, 62 miles in length, will open up traffic on the Beni

a guarantee of 5 per cent. on the capital cost of construction, and the right to purchase 9,202,500 acres of land at the price of 1/4 per acre for grazing land, and 8/10 per acre for rubber lands. The work of measuring and marking out 6,000,000 acres has been in progress during 1912. A start was made on the development of the Julio Muller Rubber Estate of 1,000 square miles, of which a large part is yet unexplored. Only some 80 tons of rubber were collected during the year, but, under proper supervision, this amount will be considerably increased, 458 tons having been brought in during the first seven months of 1913. Experiments are now in progress, with improved methods of tapping the trees and manufacture of rubber, such as are in use in the Malay States and Ceylon.

Antofagasta (Chili) and Bolivia Railway Company, Limited.—This company continues to make steady progress. The dividends paid on the deferred shares were increased from

1 per cent. bonus in 1912. The development of business continues to be satisfactory in the current year.

Uruguay Railway Company. This subsidiary company holds important stock interests in the five railway companies working in the Republic of Uruguay, all of which had a satisfactory year in 1912. A concession for a line from the port of La Paloma to Cobellati, 127 miles, was acquired, and construction commenced on the first section. The line carries a Government guarantee of 3 1/2 per cent. on £3,000 per kilometre. The company travels north, and with railway facilities will develop rapidly. A contract was also entered into with the Government for the construction, for account

Colonla, and the establishment of a service of fast steamers

and thence in a junction with the Brazilian system, to the ratification of Congress.



# BUENOS AYRES RAILWAYS MERGER ABANDONED.

The boards of the Buenos Ayres Great Southern Railway and Buenos Ayres Western Railway announce that they have decided to withdraw the petition which was presented in July of last year to the Argentine Congress for an amalgamation of the two companies.

For a full explanation of the decision of the two boards readers must await the forthcoming publication of the annual reports of the companies. It will not be surprising to find that one influence which assisted to lead to the abandonment of the proposal is the agitation which has taken place against trusts, and which is about to culminate in the introduction of a bill by the Public Works Committee of the Senate of the Province of Buenos Ayres for the extension of the lines of the La Plata to Meridiano V. Railway by the Government, although neither that railway nor the canals constructed by the Government have given results likely to inspire confidence.

## DIVIDEND ANNOUNCEMENTS.

DUBLIN AND KINGSTOWN RAILWAY.—At the rate of 8 per cent. per annum, £1,833 being carried forward.

ISLE OF MAN RAILWAY.—At the rate of 5 per cent. per annum for the half-year, the same as a year ago.

HORNCASTLE RAILWAY.—At the rate of 6 per cent. per annum (8s. per share) on the ordinary shares for the half-year.

WEST SOMERSET MINERAL RAILWAY.—At the rate of 5 per cent. per annum on the ordinary shares for the half-year.

DICK, KERR, AND CO., LTD.—A final dividend of 3 per cent. on the 6 per cent. preference shares, payable October 1.

FORESTAL LAND, TIMBER, AND RAILWAY.—Interim dividend of 3 per cent. on the preference shares, payable October 1.

GREAT NORTHERN RAILWAY (U.S.A.).—A quarterly dividend of 1½ per cent. on the preferred capital stock, payable November 1.

OTTOMAN, SMYRNA TO AIDIN RAILWAY.—A dividend of 8s. per ordinary share for the half-year, carrying forward a balance of about £36,000.

CAMMELL LAIRD.—An interim dividend of 2½ per cent., less income-tax, on the cumulative preference shares of the company, payable on October 4.

WINNIPEG ELECTRIC RAILWAY.—Dividend at the rate of 3 per cent. for the quarter ending September 30, payable on October 1. A year ago the dividend was at the same rate.

BILBAO RIVER AND CANTABRIAN RAILWAY.—Interim dividend and bonus amounting together to 48.6d. per share, free of income-tax, for the half-year to June 30, on preference end ordinary shares, payable on September 24. A year ago the distribution was 6s. per share.

KING'S LYNN DOCKS AND RAILWAY.—For the half-year ended June 30, the receipts amounted to £17,661, an increase of £1,738, and after providing for interest and other charges the net revenue was £12,264, an increase of £265. The full dividend will be paid on the 1800 4 per cent. preference stock, and 2½ per cent. per annum on the Consolidated 4 per cent. preference stock, leaving £123 to be carried forward.

NATAL-ZULULAND RAILWAY. After providing for interest on the first and second debentures, there is a balance of £2,525, which, with the amount brought forward, gives a total of £2,807. The directors paid an interim dividend of 1 per cent. in March, leaving an available balance of £1,785, from which it is proposed to pay a final dividend of 1½ per cent. (making 2½ per cent. for the year) and to carry forward the balance of £102.

It states that the gross receipts from traffic, rent, and transfer fees (including the amount payable by the Lancashire and Yorkshire Railway Company for the year to June 30 in respect of their guarantee), are £8,869, compared with £8,216 for the six months to June 30, 1912, an increase of 7653. The net revenue account, including the amount brought forward from the previous half-year, shows, after payment of the debenture dividend, a balance of £391, which is carried forward.

## Benguela Railway.

Angola, in blocks of about 12,350 acres each.

# "SYMPATHETIC" STRIKES IN THE NORTH.

at Liverpool and Birmingham, the men refusing to handle what they termed "tainted" goods. These are consign-

Labour upheaval in that city. On Thursday the executive of

the matter, with the result that they passed a resolution stating that there appeared to be a great misunderstanding regarding the situation in Dublin, where, although a combined attack was being made upon trade unionists, no blackleg traffic had been shipped. Members had therefore placed themselves and the Executive Committee in a difficult position by "well-meant but precipitate action," and the executive trusted that members would do everything possible to assist in bringing about a fair and dignified settlement of the dispute as it now stands, as there are "no straight issues to fight upon."

In face of the arrogant issue or refusal of "permits" for the removal of goods from the Birmingham goods yards the local authorities have issued a notice that full police protection will be afforded to traders.

At Liverpool negotiations lasted all day on Thursday. The men asked that work should be resumed on the conditions that the Dublin-Holyhead route should be reopened, that all men out should be reinstated, and that they should not be required to handle "tainted" goods. The companies' reply, as expressed by London and North Western officials, was that the men must agree to obey orders, and could not be allowed to differentiate in the goods they handled. A number of men resumed work during the day.

The Birmingham strike committee passed the following resolution on Thursday night:—"That this central strike committee absolutely repudiates the statement issued by the executive committee through the Press to night, and being satisfied that our cause is a just one, we hereby decide that in no circumstances will we advise a return to work unless the twelve dismissed men are reinstated and a proper policy is decided regarding blackleg traffic. We further, in the strongest possible terms, desire to condemn the action of our executive committee in their weak and procrastinating policy since the dispute commenced, and demand that a national strike be declared at once."

## TROUBLE WITH LONDON OMNIBUS MEN.

In the early part of the week, Tillings, Ltd., motor omnibus proprietors in London, experienced trouble with their employees, who desired to wear the badge of their trade union. On Thursday, the Lord Mayor got the parties into conference, with the result that the company conceded the point and agreed to re-instate the dismissed men, but refused to recognise the union. Midnight meetings of the union, representative of the "Tram, Omnibus and Tube" Combine, on Thursday, utilised the refusal as a ground upon which to demand similar recognition from the London General Omnibus Company. Mr. A. H. Stanley, the manager-director, has explained that the Combine have no quarrel with their men, and that the officials are in the habit of periodically meeting committees of both union and non-union employees at the various garages to consider any matters put forward by the men. The latter now ask for the abolition of this system and direct recognition of the union. All of the filling vehicles were stated to have been left in the garages yesterday. The union men threaten to strike to-day.

Automobile Tram Service. The perfectly.

Longest Tram Line, Birmingham, W. A.





vehicles should be made, Sir Guy Granet said that the company had instituted an improved safety system. The firmity of stock forming the frames should be aimed at, had been arranged as far as possible. After deliberate consideration the suggestion that the head stocks should be deepened was not adopted on the ground that the disadvantages which would result from its adoption would outweigh any benefits likely to be derived.

The third suggestion was that tools and appliances for rescue work should be carried on the train, such as axes, sledge hammers, crowbars, and hammers, and additional hand-lamps. That, the Inspector knew, the company had done.

The fourth recommendation was that fire-extinguishing apparatus and fire buckets should be carried on the trains. The company had provided in each guard's van two fire extinguishers and four fire buckets, and a baffler for extinguishing gas flames from a broken pipe; and in addition to that instructions had been issued to the staff as to how to use that apparatus; and further, every guard of every express train had to receive personal instruction as to the manner in which both the tools and the fire appliances were to be used.

The fifth recommendation was that a third door should be provided in the middle of each sleeping car. That the Board did not think desirable, because so many cases had occurred of people in sleeping cars falling out by mistaking the door. They thought it would only create another danger, but they had provided an emergency window in the sleeping cars.

The sixth recommendation—that sockets should be provided outside the carriage doors for prizing the doors open—they did not think necessary.

As regards the seventh recommendation—that the windows should be large enough for exit purposes—they said that that was so in all expresses.

The eighth recommendation was that railway servants, particularly guards and conductors, should be further instructed how to act in cases of serious accidents. New rules had been issued to the staff telling them what to do in great particularity.

After reading the report of Major Pringle on the above question, Sir Guy Granet pointed out the greater liability to fire in railway accidents when gas was used, although there still remained the risk from the contents of an engine fire-box, or from the fuel used in the cooking ranges on restaurant cars. Grantham, and possibly Cudworth, had supplied instances of fires from the latter causes. But the accident at Hawes Junction three years ago was, in fact, actually the first occasion when it could be proved beyond doubt that fire was occasioned by burning gas. It had to be remembered, too, that gas had been in use for lighting purposes for a very long period. Gas, with the latest improvements, had many practical advantages over electricity. It was only reasonable, therefore, first to consider, before entirely condemning it, whether it was possible to safeguard the use of gas as an illuminant by the adoption of any improvement in appliances which might minimise the risk of fire. Major Pringle added: "On the ground of safety I hold electricity is the more desirable means of illumination for passenger trains, and as such should be adopted wherever possible, and that in the case of long distance and express trains it is more particularly to be recommended." "The position the company took up over this was as follows," said Sir Guy. "Taking the record of accidents for the last 32 years, up to December 31, 1912—a period during which gas may be said practically to have been the standard illuminant over the country—we find there have been 1,602 cases of accidents to passenger trains. In 23 of those cases fire occurred as the result of the accident, and in those 23 cases the fire was attributable to the following circumstances:—Oil of the lamps, two cases; electrical causes, three cases; cases not stated, three; fire from locomotives, seven; by gas, eight. I have taken the eight cases in which it could be said that gas was the cause, but you said, yourself, sir, on the report of the Hawes accident that that was actually the first case where it could be proved that gas has been the source of the fire. I am, however, taking it at its greatest when I say that in eight cases gas was the cause.

"Then we also investigated what was going on abroad.

to say that the first expert railway opinion abroad was in

stalled; in view of the further precautions which we were taking and the money we were spending largely in order to prevent accidents occurring at all, in view of the fact that

railway advantages; and in view of the fact that we were corroborated in our opinion by the bulk of the foreign and English railway companies, my Board came to the conclusion that it would be premature to make a complete revolution in their policy as to illumination of railway vehicles, and there-

the coal was concerned it was too small on that night, and in that respect it was bad coal, and it undoubtedly was difficult for Driver Caudle to keep up a proper head of steam with that coal. I do not know I have the right to say so, but if I had I should like to say in my opinion whatever blame it may be that he has incurred for faults committed, that circumstance is one which should be taken into full account in weighing the amount of blame which should be given to him. One suggestion about the coal which I resent very much is that the coal was of an inferior quality, that the contract was made by the company either negligently or carelessly, or without proper tests as to whether the coal was the proper sort of coal for use on a railway, and it was bad for reasons of economy. This is absolutely without foundation, and perhaps you will allow me to deal with it. First of all, dealing with the price. The price we paid for that coal was 13s., and that price was 6d. higher than any other coal that we were purchasing except Welsh coal. It was 6d. higher than the coal which we have always regarded as the best English coal—South Yorkshire coal, and it was 1s. 6d. higher than the best Nottingham and Derbyshire coal; so that as regards price it cannot be suggested it was cheap coal. Then this was a new contract, and it was the first contract we have had with this particular colliery. They approached us in the early part of the year, and before making a contract we first of all had the coal analysed. After giving an analysis, Sir Guy mentioned "that it was better than every analysis they could get out of the average best South Yorkshire coals which they bought, for practical purposes the company tried the coal for some days over that particular section of the line between Carlisle and Leeds, and the inspector who tested it reported that he could recommend it without the least hesitation for use by itself at Carlisle in place of either the Blackett or South Tynes coal. He found also that the engines steamed no more freely when their coal was mixed with South Yorkshire coal than by itself. It was, he added, the cleanest coal he had used for locomotives, burning in the fire-box very similarly to the Welsh coal.

"Thereupon a contract was made with the colliery company to supply 300 tons of the coal per week at 13s., and it was stipulated that the coal should be screened over 1 inch screens to prevent any slack. The deliveries of this coal began on July 1, and on August 1 a complaint was received at Derby that the coal was giving trouble. Thereupon on August 3 an inspector was sent to Carlisle to look at the coal. Here is his report. He said the coal was not properly screened according to contract, and contained a lot of slag which ought not to be there. On the 6th the matter was taken up by the colliery company, and they came and inspected the coal, and admitted it was not right, and agreed to put it right by increasing the size of the space between the bars, so making the size larger. Thereupon the deliveries commenced again, and I was again inspected by our inspector, who had then opened up and he reported that the coal was fully in accordance with the contract and contained no slack. Thereafter we had no complaint at all as to the quality of the coal, and we naturally





be comparatively small. "If the carriages had been of new type, with steel frames and the new kind of buffers, the passengers would have got out of this accident with nothing worse than a very bad shaking," Mr. Bain declared. "These buffers and the new steel frames would prevent telescoping, and would resist a blow up to 40 miles an hour."

In reply to a question by the Inspector as to the possible use of asbestos flooring, Mr. Bain said there was a doubt as to how long asbestos would retain its fire-resisting properties. It had also, he said, been found to have a very bad effect on nails, screws, and other attachments. They hoped to have some reliable information as to the experience on the underground railways. The inquiry was then terminated.

#### THE CORONER'S INQUEST.

At the resumption on Wednesday of the inquest on the bodies of the persons who were killed as the result of the accident, George Sutherland, the signalman at Mallerstang signal-box, described how the two trains passed his box, and the efforts he made to stop the second express when he realised that it was running past his signals into a section which still contained the first train. As the train passed his box he looked to see if there was any person on the engine, but he could see neither driver nor fireman. The train was travelling at about 25 miles an hour. He immediately called the signalman at Aisgill and gave the signal, "Train running away on right line." He also rang up the signalman at Kirkby Stephen, and told him the train had run past his signals. The train passed his starting and distance signals, both of which were at danger.—Edward Carey, district locomotive superintendent at Carlisle, gave details as to the tonnage of the trains.—Mr. J. H. Thomas, M.P., who now appeared for the drivers and firemen of both trains, desired to question this witness as to whether every driver of these expresses left the footplate every night with this class of engine for the purpose of oiling, but the Coroner said that that was a point which the Board of Trade inquiry would probably attend to.—Nicholson, the driver, and Metcalf, the fireman of the first train, said they generally had to leave the footplate to keep these engines right.

Sir Guy Granet, the general manager of the Midland Company, was also present, and intimated his willingness to answer any question.

Yesterday (Friday) the jury returned a verdict of carelessness against the driver and fireman of the second train, the rear guard of the first train, and the locomotive superintendent at Carlisle, with extenuating circumstances in the case of the driver.—The coroner said there was no legal evidence of carelessness against the guard and locomotive superintendent, and sent the jury back to reconsider their verdict.—The jury next found "carelessness on the part of the driver and fireman of the second train, with extenuating circumstances."—The coroner said this was manslaughter.—The jury: "No, no; certainly not."—After retiring four times they found a verdict of accidental death.

#### A GREAT NORTHERN EXPRESS DERAILED.

The Great Northern Express, which was running from King's Cross at 11.45 p.m. on September 12, was derailed at six o'clock the next morning near Chevington Junction on the North Eastern Railway, about thirty-five miles south of Berwick, between Morpeth and Alnmouth. There was no loss of life, and although the passengers got a severe shaking, only one is reported to have been injured. The train left Newcastle about five o'clock for the North. At Chevington Junction the tender and six bogie coaches left the rails, tearing up the permanent way for a distance of two hundred yards. The engine kept on the rails. It is stated that the train was kept upright after the derailment by the fact that the wheels were embedded in soft stone ballast which had just been laid down at this point. The train was broken into sections, and the carriage windows were broken. As soon as the driver noticed the tender leaving the line he put the brakes on to the carriages, with the result that the couplings were snapped and the engine ran free for about half a mile. The train was travelling over forty miles an hour. There is an impression among railway officials that the incident may be accounted for by a subsidence owing to the mineral workings.

Col. von Donop held the Board of Trade inquiry on Wednesday at Chevington, when the driver said he went on duty at 4.40 a.m., and was due for relief at 4.30. "Eleven hours,"

hour's rest at Edinburgh." On coming to a standstill, after experiencing a lurch, he found the tender derailed and the rest of the train about two hundred yards in the rear. He was travelling at 55 to 60 miles an hour. He had never felt a lurch at this point before. They were accustomed to lurches during the process of relaying the track, but nothing like so bad as that one. The fireman, driver, guard, and conductor of a train which left Newcastle at 4.48, and passed Chevington in front of the derailed train—spoke of slight oscillation there, but said that it was not enough to report. Ballasting was going on in the neighbourhood, and they were not surprised at the oscillation. Colonel von Donop then remarked that there was no evidence to show where the uncoupling took place, or which vehicles were first derailed. Mr. Harper (for the company) thought no more light could be thrown on that.—In concluding the inquiry Colonel von Donop said it was a record to derail a train travelling 55 miles an hour and have no complaints of injuries.

#### SERIOUS ALLEGATIONS IN THE IRISH MISHAP.

At the inquest on Thursday on the body of the man who was killed in the accident, the jury returned a verdict that the deceased had met his death in a railway accident at Donemana by receiving injuries deposited to in the medical

Doherty, fireman of the train which was partly wrecked near Donemana station on September 7, were charged with driving the train in such a manner as to kill a man named Michael McPhelimy and seriously injure a number of other persons who were passengers. The witnesses alleged that the two men had been drinking, and a doctor stated that both seemed to be under the influence of drink after the accident. Another remand was ordered, the bail being increased.

#### SIR CHARLES OWENS DEFENDS RAILWAY AGREEMENTS.

At the annual conference of the Association of Chambers of Commerce of the United Kingdom, held on September 16th at Antwerp, a resolution was moved on behalf of the Birmingham Chamber expressing the view that "it is essential to the protection of the interests of the trading community that all amalgamations, agreements, and arrangements between two or more railway companies should be made illegal unless approved by Parliament; and that no such amalgamations, agreements, or arrangements should be approved unless proper and adequate safeguards are inserted for the protection of the commercial community." Mr. Thomson (Haitaxi), the seconder, said that many firms, to avoid excessive charges by the railways, were beginning to employ motor lorries.

Sir CHARLES OWENS opposed the resolution, maintaining that railway amalgamations were only possible if they received the approval of Parliament.

The proposer of the resolution replied that the previous speaker considered things from the standpoint of the railway director. "If a customer complains," he said, "he finds himself opposed not by one but by all the companies, who threaten that unless the complaint is withdrawn the customer's account will be cancelled, and this means being worried by

A resolution was adopted declaring the report of the Board of Trade Railway Conference to be utterly inadequate, and "that the President of the Board of Trade be requested to appoint a strong Departmental Committee, on which the trading community shall be adequately and effectively represented, with the widest possible terms of reference, to inquire into and report upon the many important questions that from time to time have been raised between railway companies on the one hand and the traders and the general public on the other, that the President of the Board of Trade be also informed that no proposed solution of the railway question can be regarded as satisfactory which does not confer upon the Board of Trade similar powers with regard to classification

## RAILWAY NOTES.

**Safe Working Classes.**—A number of the officers of the Railway and Tramway Institute of New South Wales is the holding of classes for instruction in safe working at various centres.

**Brazil Railway Issue.**—The Brazil Railway Company is negotiating for the issue of £2,000,000 in bonds, £1,000,000 in the Continent—£4,000,000 in Paris and the rest in Belgium and Switzerland.

**An Underground Booking Record.**—After the football match between Woolwich Arsenal and Notts County at Highbury on Monday last, 4,100 passengers were booked in twenty-two minutes at the Gillespie Road tube station. This is believed to be a record.

**1,000-mile Railway Tickets.**—In connection with queries raised on the subject of long distance railway tickets, Mr. S. Williamson, general manager of the Cambrian Railways, has stated that first-class 1,000-mile and 500-mile tickets have been issued by the company for the past fifteen years.

**Six Months for Drunkenness while on Duty.**—At Montreal on September 17, a Canadian Railway employee was sentenced to six months' imprisonment for having been drunk while on duty. The punishment to which the accused was liable was five years in a penitentiary, or payment of a fine of \$500, or both.

**The New Station at Basle.**—One of the largest and most expensive railway stations in Europe has just been completed on the Swiss-German frontier at Basle. The station, which is to be the terminus of the new Swiss-German railway, is to be completed in 1915. Most of the capital was found by the Duchy of Baden.

**Coal Contracts of Continental Railways.**—The contract for the supply of Russian State railways with a quantity of steam coal for 1914 has been awarded to the West-Prussian Coal Company, Ltd., of West-Prussia. The contract is for 1,000,000 tons of coal. The Russian State Railway order for 80,000 tons will also go to West-Prussia.

**English Railways Credited with a Loss of £1,000 a Day by Pilfering.**—Replying to complaints made by the traders of Melbourne, the Victorian Railway Commissioners admit that a considerable amount of pilfering occurred on the railways, and that the loss in this respect is estimated at £1,000 a day. A considerable number of persons have been detected during the past six months and prosecuted.

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and Abbey Works, Shrewsbury.**

## PERSONAL.

Mr. George Ham, of the London and North Western Railway, has left for Canada to take up a position as a railway engineer.

Mr. P. C. P. has left for Canada to take up a position as a railway engineer. Mr. A. Angus, of the London and North Western Railway, has left for Canada to take up a position as a railway engineer.

Mr. H. Deane, of the London and North Western Railway, has left for Canada to take up a position as a railway engineer.

Mr. John Eaglesome, C.M.G., of the London and North Western Railway, is putting forward railway developments. The new Eastern line, which will be 400 miles long, will traverse the Central Province and terminate at Igbocha. Sir Ferdinand has been appointed to the post of Governor of Nigeria.

Mr. Wm. Collier, of the London and North Western Railway, has been presented with a testimonial after 50 years' service. He was presented with a cheque on leaving, and in acknowledging the valuable testimonial he recalled that he had seen many changes and many changes in the railway world since he first joined the company. In his early youth his hours each day were from 4 a.m. until 10.45 p.m., and notwithstanding this, it was wonderful

Mr. F. L. Williams, of the London and North Western Railway, has been presented with a testimonial after 50 years' service. He was presented with a cheque on leaving, and in acknowledging the valuable testimonial he recalled that he had seen many changes and many changes in the railway world since he first joined the company. In his early youth his hours each day were from 4 a.m. until 10.45 p.m., and notwithstanding this, it was wonderful

Mr. George Bradshaw, of the London and North Western Railway, has been presented with a testimonial after 50 years' service. He was presented with a cheque on leaving, and in acknowledging the valuable testimonial he recalled that he had seen many changes and many changes in the railway world since he first joined the company. In his early youth his hours each day were from 4 a.m. until 10.45 p.m., and notwithstanding this, it was wonderful

Mr. W. G. Clarke, of the London and North Western Railway, has been presented with a testimonial after 50 years' service. He was presented with a cheque on leaving, and in acknowledging the valuable testimonial he recalled that he had seen many changes and many changes in the railway world since he first joined the company. In his early youth his hours each day were from 4 a.m. until 10.45 p.m., and notwithstanding this, it was wonderful

Excursion Trains for Land Colonisation. The Victoria and Albert Museum has been presented with a testimonial after 50 years' service. He was presented with a cheque on leaving, and in acknowledging the valuable testimonial he recalled that he had seen many changes and many changes in the railway world since he first joined the company. In his early youth his hours each day were from 4 a.m. until 10.45 p.m., and notwithstanding this, it was wonderful

## RAILWAY STOCK AND SHARE LIST.

### HOME RAILWAY ORDINARY STOCKS.

[illegible]

### Debenture Stocks.

[illegible]

### Debenture Stocks

SHEPHERD STOCKS		SHEPHERD STOCKS	
NAME	PRICE	NAME	PRICE
Post Tabor Railway and Docks	4	Shepherd District Permanent	4
Roundhead and Samsa Bay	4		
Shepherd District Permanent	4		
Do.	9		

### Preference Stocks

### Preference Stocks—



## RAILWAY STOCK AND SHARE LIST.

### Colonial Railways.

### Foreign Railways.

[illegible]

# OFFICIAL TRAFFIC RETURNS.

## Barry.

Week ending Sept. 14	1913.	1912.
Total for week	217,400	211,411
Aggregate for 37 weeks	8,014,400	7,944,747
Miles open	11,174	11,174
Inc. this week	£1,100	£1,100

## Calonian.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	225,300	225,300
Goods, etc.	60,400	60,000
Total for week	285,700	285,300
Aggregate for 37 weeks	10,670,000	10,546,100
Miles open	1,117.4	1,117.4
Inc. this week	£1,100	£1,100

## Cambrian.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	25,572	25,102
Goods, etc.	2,200	2,200
Total for week	27,772	27,302
Aggregate for 37 weeks	1,016,400	994,400
Miles open	281	281
Inc. this week	£365	£365

## Central London.

Week ending Sept. 14	1913.	1912.
Total for week	£178,458	£169,554
Miles open	6.3	6.3
Inc. this week	£1,500	£1,500
Inc. 37 weeks	£9,894	£9,894

## City and South London.

Week ending Sept. 14	1913.	1912.
Total for week	£27,504	£27,398
Aggregate for 37 weeks	£1,032,257	£1,032,007
Miles open	7.0	7.0
Inc. this week	£241	£241
Dec. 37 weeks	£9,750	£9,750

## Dublin and South Eastern.

Week ending Sept. 12	1913.	1912.
Passengers, etc.	24,463	24,376
Goods, etc.	1,823	1,571
Total for week	26,286	25,947
Aggregate for 37 weeks	£211,901	£201,537
Miles open	160	160
Inc. this week	£339	£339
Inc. 37 weeks	£10,364	£10,364

## Furness.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	25,760	25,521
Goods, etc.	7,553	7,553
Total for week	33,313	33,074
Aggregate for 37 weeks	£407,931	£350,416
Miles open	159	159
Inc. this week	£177	£177

## Glasgow and South Western.

Week ending September 13	1913.	1912.
Passengers, etc.	118,200	117,000
Goods, etc.	48,500	48,500
Total for week	166,700	165,500
Aggregate for 37 weeks	1,414,000	1,305,500
Miles open	4.0	4.0
Inc. this week	£1,100	£1,100
Inc. 37 weeks	£108,500	£108,500

## Great Central.

Week ending September 13	1913.	1912.
Passengers, etc.	236,200	232,500
Goods, etc.	69,900	70,400
Total for week	306,100	302,900
Aggregate for 37 weeks	11,273,300	11,224,400
Miles open	11.0	11.0
Inc. this week	£4,900	£4,900
Inc. 37 weeks	£575,800	£575,800

## Great Eastern.

Week ending September 14	1913.	1912.
Passengers, etc.	273,100	269,000
Goods, etc.	51,100	51,100
Total for week	324,200	320,100
Aggregate for 37 weeks	12,147,500	12,074,400
Miles open	1.0	1.0
Inc. this week	£74,100	£74,100
Inc. 37 weeks	£74,100	£74,100

## Great Northern.

Week ending September 13	1913.	1912.
Passengers, etc.	268,200	264,800
Goods, etc.	74,800	73,900
Total for week	343,000	338,700
Aggregate for 37 weeks	12,690,000	12,366,500
Miles open	1.0	1.0
Inc. this week	£4,500	£4,500
Inc. 37 weeks	£523,700	£523,700

## Great Northern (Ireland).

Week ending Sept. 14	1913.	1912.
Total for week	217,400	211,411
Aggregate for 37 weeks	8,014,400	7,944,747
Miles open	11,174	11,174
Inc. this week	£1,100	£1,100

## Great North of Scotland.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	26,570	25,370
Goods, etc.	5,170	5,300
Total for week	31,740	30,670
Aggregate for 37 weeks	1,180,580	1,155,760
Miles open	1.0	1.0
Inc. this week	£70	£70
Inc. 37 weeks	£24,781	£24,781

## Great Southern and Western.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	217,724	215,961
Goods, etc.	19,800	19,671
Total for week	237,524	235,632
Aggregate for 37 weeks	8,745,000	8,545,000
Miles open	1.0	1.0
Inc. this week	£1,100	£1,100

## Great Western.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	£101,000	£105,000
Goods, etc.	153,000	152,000
Total for week	£254,000	£257,000
Aggregate for 37 weeks	10,748,000	9,900,000
Miles open	1.0	1.0
Inc. this week	£1,100	£1,100

## Highland.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	4,029	4,029
Goods, etc.	2,980	2,980
Total for week	7,009	7,009
Aggregate for 37 weeks	268,117	268,117
Miles open	492.4	492.4
Inc. this week	£599	£599
Inc. 37 weeks	£2,112	£2,112

## Hull and Barnsley.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	257	249
Goods, etc.	1,100	1,100
Total for week	1,357	1,349
Aggregate for 37 weeks	£14,079	£13,962
Miles open	255.353	248.255
Inc. this week	£112	£112

## Lancashire and Yorkshire.

Week ending September 14	1913.	1912.
Passengers, etc.	2,112	2,112
Goods, etc.	62,400	67,372
Total for week	64,512	69,484
Aggregate for 37 weeks	2,451,516	2,461,425
Miles open	1.0	1.0
Inc. this week	£1,210	£1,210
Inc. 37 weeks	£268,740	£268,740

Week ending September 13	1913.	1912.
Passengers, etc.	£61,002	£60,102
Goods, etc.	1,100	1,100
Total for week	£62,102	£61,202
Aggregate for 37 weeks	2,451,516	2,461,425
Miles open	1.0	1.0
Inc. this week	£1,210	£1,210
Inc. 37 weeks	£268,740	£268,740

Week ending September 13	1913.	1912.
Passengers, etc.	£61,002	£60,102
Goods, etc.	1,100	1,100
Total for week	£62,102	£61,202
Aggregate for 37 weeks	2,451,516	2,461,425
Miles open	1.0	1.0
Inc. this week	£1,210	£1,210
Inc. 37 weeks	£268,740	£268,740

## London Electric.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	218,000	215,000
Goods, etc.	170,000	181,000
Total for week	388,000	396,000
Aggregate for 37 weeks	11,524,000	10,742,000
Miles open	1.0	1.0
Inc. this week	£2,000	£2,000
Inc. 37 weeks	£95,000	£95,000

## London and North Western.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	218,000	215,000
Goods, etc.	170,000	181,000
Total for week	388,000	396,000
Aggregate for 37 weeks	11,524,000	10,742,000
Miles open	1.0	1.0
Inc. this week	£2,000	£2,000
Inc. 37 weeks	£95,000	£95,000

## London and South Western.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	279,200	277,800
Goods, etc.	55,800	52,900
Total for week	335,000	330,700
Aggregate for 37 weeks	12,390,000	12,218,000
Miles open	1.0	1.0
Inc. this week	£700	£700
Inc. 37 weeks	£13,500	£13,500

## Metropolitan.

Week ending Sept. 14	1913.	1912.
Total for week	217,400	211,411
Aggregate for 37 weeks	8,014,400	7,944,747
Miles open	11,174	11,174
Inc. this week	£1,100	£1,100

## Metropolitan District.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	217,724	215,961
Goods, etc.	19,800	19,671
Total for week	237,524	235,632
Aggregate for 37 weeks	8,745,000	8,545,000
Miles open	1.0	1.0
Inc. this week	£137	£137
Inc. 37 weeks	£18,182	£18,182

## Midland.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	£115,000	£109,000
Goods, etc.	5,974	5,974
Total for week	£120,974	£114,974
Aggregate for 37 weeks	9,955,000	9,201,000
Miles open	37.0	37.0
Inc. this week	£1,026	£1,026
Inc. 37 weeks	£25,780	£25,780

## Midland Great Western of Ireland.

Week ending September 12	1913.	1912.
Passengers, etc.	26,806	26,806
Goods, etc.	5,974	5,974
Total for week	32,780	32,780
Aggregate for 37 weeks	£459,912	£459,912
Miles open	5.8	5.8
Inc. this week	£1,026	£1,026
Inc. 37 weeks	£25,780	£25,780

## North British.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	244,000	244,000
Goods, etc.	5,974	5,974
Total for week	250,000	250,000
Aggregate for 37 weeks	£104,900	£104,900
Miles open	1,285.4	1,285.4
Inc. this week	£1,100	£1,100
Inc. 37 weeks	£282,700	£282,700

## North Eastern.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	139,233	142,937
Goods, etc.	227,553	222,481
Total for week	366,786	365,418
Aggregate for 37 weeks	8,027,784	8,027,784
Miles open	1.0	1.0
Inc. this week	£4,122	£4,122
Inc. 37 weeks	£1,081,134	£1,081,134

## North London.

Week ending September 14	1913.	1912.
Passengers, etc.	24,829	24,727
Goods, etc.	4,671	5,255
Total for week	29,500	29,982
Aggregate for 37 weeks	£303,521	£298,100
Miles open	15.2	15.2
Dec. this week	£865	£865
Dec. 37 weeks	£5,421	£5,421

## North Staffordshire.

Week ending September 14	1913.	1912.
Passengers, etc.	26,200	25,400
Goods, etc.	15,800	15,800
Total for week	42,000	41,200
Aggregate for 37 weeks	1,571,610	1,571,610
Miles open	37.0	37.0
Inc. this week	£45,470	£45,470

## Rhymney.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	2,112	2,112
Goods, etc.	1,100	1,100
Total for week	3,212	3,212
Aggregate for 37 weeks	11,524,000	10,742,000
Miles open	1.0	1.0
Inc. this week	£1,210	£1,210
Inc. 37 weeks	£268,740	£268,740

## South Eastern and Chatham.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	25,384	25,384
Goods, etc.	5,974	5,974
Total for week	31,358	31,358
Aggregate for 37 weeks	1,180,580	1,155,760
Miles open	65.4	65.4
Inc. this week	£1,100	£1,100
Inc. 37 weeks	£74,100	£74,100

## Taff Vale.

Week ending Sept. 14	1913.	1912.
Passengers, etc.	217,724	215,961
Goods, etc.	19,800	19,671
Total for week	237,524	235,632
Aggregate for 37 weeks	8,745,000	8,545,000
Miles open	1.0	1.0
Inc. this week	£1,100	£1,100
Inc. 37 weeks	£108,500	£108,500





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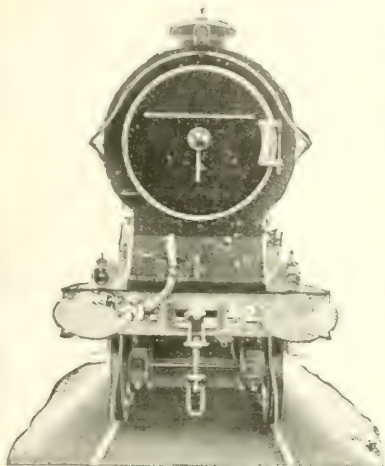
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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, SEPTEMBER 27, 1913.

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## PRINCIPAL CONTENTS.

## THE RAILWAY TIMES.

Established in 1837.

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All communications for the following issue should be received not later than 6 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

Money Orders, Cheques, etc., should be drawn in favour of THE RAILWAY TIMES, and should be crossed "National Bank."

Telegraphic Address: "Altimetry, London." Telephone No. 2948 Gerrard.

Offices: 12, Norfolk Street, London, W.C.

## THE GOVERNMENT AND RAILWAY LABOUR POLICY.

At the time of the late railway strike, the Government found time to time in favour of the State control of our railways is the suggestion that Government ownership implies greater success in handling labour problems. Like various other reasons urged in favour of State purchase of the railways, and indeed other industries, the argument is entirely fallacious. People who entertain it for a moment must be blind to current events. An apt illustration of this is provided by the agitation proceeding amongst postal servants on the one hand, and the successful way in which the railway companies have settled on their own terms the difficulties which recently broke out among the various sections of their men. The postal servants are perhaps among the most pampered body of men in the country, simply because they are Government servants, and are able to bring powerful political influence to bear. In response to one of the periodical agitations in their ranks, the Government persuaded the House of Commons to appoint a Select Committee to enquire into the further claims, which are officially stated to have involved an additional expenditure of upwards of ten millions per annum for the postal staff alone. The report was recently published, and is now under the consideration of the Government. After careful investigation by independent authorities, improvements in the conditions of the staff, pensions, etc., are recommended to the extent of upwards of one million per annum. This is, of course, a matter of grave public interest, as all additional expenditure in the Post Office has to be borne by the country, and however it may strike interested agitators, it will certainly not appear to the public that the sum of one million sterling per annum is a paltry sum. Instead of accepting the results of this investigation with some appearance of gratitude, the various organisations connected with the Post Office staff appear to have put their heads together, and decided to organise a policy of reckless agitation. They are at present endeavouring to make the public shiver with a threat of a strike, and they have passed various resolutions of a very drastic character, which can only have the effect of prejudicing the public against their case, however satisfactory it may be. So serious does the agitation appear to be that the Post Office have issued an official explanation.

describes the report of the Select Committee as "an insult to the intelligence of post office employees." From another point of view, this statement of itself is not only an insult to the Select Committee, but to the House of Commons and the Government who were responsible for its appointment; and as for the threat of a strike, it should be clearly understood that after its experience of the last few years, no threat of a strike can possibly alter the attitude of the public towards claims of this character which, with or without a strike, will be dealt with on their absolute merits. In the case of the railway companies recently there have been some scattered attempts to bring out various sections of the workers, and in certain districts, like Liverpool, Birmingham and elsewhere, they succeeded for a few days. However, the companies from the outset adopted a firm attitude, and made it clear that their men

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we would also like to add that the welcome feature in connection with recent events has been the perfectly correct attitude adopted at all points by responsible leaders of the railway labour unions. For once in a way railway managers and the responsible leaders of the railwaymen have seen eye to eye, and that being so there was no difficulty in arranging for the reinstatement of the men who had so suddenly thrown up their work, but it may be observed that one important condition has throughout been complied with—namely, that the workers must not handle. We are not prepared to say that railway affairs in general are in an entirely satisfactory condition from the point of view of the public, but it is a fact that the railway managers and the labour unions, much advantage will accrue to the public and to the railwaymen. We mention this matter more particularly because of its contrast with labour affairs in the Post Office, and it seems to suggest that so far from the Government being able to handle these matters better than private companies, the exact reverse is nearer the truth. Further evidence in the same direction is provided by events in South Africa. There the railways are absolutely under the control of the Government, and yet the trouble which began in connection with the mines in Johannesburg, and which spread to the railwaymen, the South African Government recently decided to appoint a Commission to enquire, among other things, into the following questions: immediate introduction of an eight hours day, minimum wage of 8s. upwards per day, abolition of piece work, reinstatement, overtime for railwaymen, etc. It would appear that in spite of legislative protection against strikes, such a disaster was only narrowly averted on the South African Government system of railways a few months ago.

### PANIC LEGISLATION AND REASONED IMPROVEMENTS.

But how is it possible to have the railway system in such a state of confusion, and the country in such a state of panic? The answer is, of course, that the railway system is in a state of confusion, and the country is in a state of panic, because of the panic legislation which has been passed in America. On the very same day a disaster occurred on the New York, New Haven, and Hartford Railroad at Wallingford, Connecticut, which also led to much loss of life. But while the Midland accident was the second serious one on that line in the last 27 months, the New York, New Haven, and Hartford accident was the first in 27 months. Clearly the situation in America calls for some action, but it should not be, as is proposed, of the nature of hasty panic legislation. In this country the railway system is in a state of confusion, and the country is in a state of panic, because of the panic legislation which has been passed in America. The Board of Trade, and it is not too much to claim that it has considerable confidence in the experts of the Board of Trade, and it is not too much to claim that it has considerable confidence in the chief officers of British railways. The Board of Trade consider all the circumstances connected with accidents and confer with representatives of the railway companies. The Board make recommendations, and these, unless found altogether impracticable, are carried out. The changes which are made are suited to varying circumstances, instead of being of the nature of cast-iron general legislation which would often be impracticable, sometimes useless, and sometimes unnecessarily expensive. In America the Inter-State Commerce Commission have large

do not appear to work in the same harmonious and efficient way with the companies as do the Board of Trade here. The accident on the New Haven and Hartford line has been immediately followed by a proposal in Congress to pass legislation which would immediately compel the use of steel passenger cars exclusively, and the installation of block systems and automatic train stopping devices apparently on all the railways in the United States. Even if such changes were desirable or necessary on every line, it would be impossible to carry them out at once, and the carrying of them out with all possible speed would entail sudden expenditure which the companies could not well face in these days of difficulty in finding additional capital. It would surely be preferable to urge the companies to expedite the work now in progress of substituting steel cars and the block system, and to negotiate with them on the advisability of adopting, where necessary, automatic train stops to work in conjunction with the signals. An enormous proportion of the mileage of American railways carries only a small traffic where elaborate and expensive safety appliances would be of little use. Officers of eleven railroads, most of them with headquarters in Chicago, have protested to prominent members of Congress against the proposed legislation. There are differences of opinion as to the value of steel cars for protecting passengers in case of collision, but at all events the protest shows that 60 per cent. of the passenger cars acquired in 1912 were all-steel. Of those under construction in January last, 97 per cent. were all-steel or had steel underframes. Steel cars are being ordered faster than the builders can supply them. Even if it were practicable now to replace all wood cars by steel ones, the cost would be nearly £150,000,000. As to block signals, the last annual report of the Inter-State Commerce Commission shows that out of 49 collision accidents investigated, 48 were caused by the failure of some employee to do his duty. Another point is that a very small proportion of fatalities on American railways are due to collisions. Most of the people killed are trespassers. If there had not been a single collision in 1912, 96½ per cent. of those who were killed on the railways would have been killed anyway. The companies making the protest accordingly put forward the reasonable suggestion that any action which Congress may take should be designed to secure the ascertainment of the causes and the application of the remedies for all classes of accidents. It may be hoped that such a course will be followed. There is certainly need for improvement, but that should be secured in the best way after full consideration.

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways for the week ended September 27, gives a total of £2,477,647, which was earned on 4,112,153, 187 mile of line open. For the corresponding week of 1912, the receipts of the same lines amounted to £2,403,279, with 21,800 miles open, or £113 18s. per mile. Thus there was a decrease of £15,632 in the receipts, an increase of 84 in the mileage, and a decrease of £1 3s. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £36,645 (or £1 9s. 10d. per mile) in the passenger receipts and a decrease of £53,017 (or £2 13s. 9d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the thirty-eight weeks in the passenger receipts has been £2,660,060, while the aggregate increase in the goods traffic was £3,986,548. The aggregate receipts of the fifty railways for thirty-eight weeks (December 1, 1912, to September 27, 1913) were £18,884,478, in comparison with £18,047,463 last year, an increase of £6,846,915, not including receipts from certain canals, etc.



# MONEY AND STOCK MARKETS.

Continuation Days.	Ticket Days.	Pay Day
Mines .....	Oct. 1	
General .....	Oct. 1	
General .....	Oct. 1	

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

At Present.	Last Year.	Last Year.
Bank's Cash and Balances .....	£1,000,000	£1,000,000
Proportion of Reserve to Liabilities .....	58.34 p.c.	60.75 p.c.
Notes in Circulation .....	41 p.c.	41 p.c.
Open Market Discount .....	3 1/2 p.c.	3 p.c.
Bankers' Clearing House .....	25.1 p.c.	25.1 p.c.
Silver bars, per oz. (spot) .....	73 1/2	73 1/2
Consols (account) .....	89 1/2	89 1/2
French 3 per cent. (acc.) .....	25 1/2	25 1/2
Paris Cheque exchange .....	\$4.82	\$4.82
New York 90 days .....	18 1/2	18 1/2
Rio de Janeiro exchange .....	28 1/2	28 1/2
Valparaiso 90-day excheq. .....	28 1/2	28 1/2
Calcutta transfers .....	28 1/2	28 1/2
Hong Kong transfers .....	28 1/2	28 1/2
Shanghai transfers .....	28 1/2	28 1/2

The Bank only secured a parcel, amounting to £27,000, of the gold coming from abroad. Against this £1,275,000 was exported, chiefly for India and Egypt. The internal demand for coin was somewhat greater and £78,000 appears to have been taken from the Bank to supply it, but the active circulation of notes contracted slightly, and the Reserve was strengthened to the extent of £57,000 from this source. The effects of these several small amounts cancelled one another, so that the reduction in the Reserve was practically the same as the sum exported—viz., £1,280,000. This brings it nearly a million below the level which obtained at the corresponding date of last year, when the Bank Rate was one half per cent. less than it is now. Rates quoted for bills of all usances have naturally hardened in the circumstances, and the future of the money market is not viewed with quite the same confidence as it was a month ago. The dependence of the market on the Bank is reflected in the rise of £1,306,000 recorded in Other Securities. Private Deposits at the same time have fallen £662,000 to £1,068,000, or over two millions below the figure of this time last year, about the same amount having been absorbed in Public Deposits, which item has increased by £600,000. As the result of all changes, the ratio of Reserve to the liabilities of the Bank is nearly 2 1/2 points lower at 58 1/2 per cent. We are now approaching the critical period of the year, when it will be decided how far the optimism which began with August, and has been maintained until now, is to be justified. At the end of July the market leaders in all the great centres of finance appeared to have satisfied themselves that the Balkan troubles were settled, if only

munitions of war or money for buying them could be obtained. It was easy to infer that the difficulties between the Balkan States and Turkey, which had been the cause of the war, would be settled, and that the conditions which would spell prostration for more civilised nations would be avoided. The stock and share list were ascribed to doubts as to

Last Saturday the Stock Exchange was closed, and this time some complaints were heard about interference with business, but business remains so small in volume that little would have been lost by the holiday. When it was resumed on Monday, attendance was unusually small, and there is no reason to believe that the orders awaiting execution were any more than on the occasion of the last holiday a fortnight before. Wall Street was closed on that day until 1 o'clock out of regard to the late Mr. Gaynor, which no doubt had some influence in restricting business here, as our time is four hours in advance of New York. Price movements were few, but on the whole favourable, and included several fractional gains in Home rails traceable to re-purchases of "bears" in preparation for the settlement. British Government stocks also improved, and so did Canadas and Mexicans to a small extent, but some international securities were ominously lower. Canadas again rose the following day, and Trunks and Mexicans were also higher, but Consols receded a fraction, and Home rails were irregular. On Wednesday the carry-over was easily arranged at charges substantially the same as before. The contangos were automatically added to the price of Home Rails for new time, but the effect of recent labour troubles on the published traffic receipts discouraged buying. Foreign securities were depressed by disquieting news from the Balkans; Canadian railways suffered from adverse advices from New York and the issue of a new Canadian loan of £3,000,000 to replace an expiring one. Canadian Pacific lost most of their former gains. Floods in Argentina and Brazil were reported as the cause for loss of traffic on many of the lines in those countries. The next day declines prevailed. Gilt edged stocks were lower, both British and foreign. United States railways were irregular. Home rails fell, nearly all stocks on the active list being quoted 1/2 or 1/4 lower. In most cases, however, closing prices were above the worst.

On Friday weakness again prevailed. Consols were 3/10 down, Irish Land stock 1/2, India 3 per cent. 1/2. Foreign securities also declined, Rio Tintos and Peruvian Pref. being sold from Paris. Chinese and Japanese stocks were also out of favour. In Home rails the declines were numerous, but small. Seeing that we are at the beginning of a new account, the disinclination to enter upon new business is particularly marked, and must be attributed to the uncertainty that everywhere prevails. Labour difficulties seem omnipresent, and the news from the Near East is far from reassuring. The best feature of the day, which was accompanied by a rise in Canadas,

Do. Def. Con. Ord. — .. 1/2 Can. Ashes Yorks. 1/2 .. —

## DEVICES FOR PREVENTING COLLISIONS.

Mr. A. R. Angus, who has leased the West Somerset Mineral Railway for the purpose of developing and demonstrating his invention for preventing collisions, has recently given a demonstration extending over three days to a number of Belgian, French, and English railway experts. Each section of the line is guarded at both ends by three ramps between the rails, which are connected by telegraph wires to an instrument in a control box. The locomotive is also fitted with an electrical contrivance brought into contact with the ramp by a shoe depending from the engine. The engine automatically telegraphs to the instrument in the control box, which instrument telegraphs back that the section is free from traffic. A bell rings in the cab of the engine to notify the driver. If, however, the section is blocked, the contrivance in the same way causes a whistle to blow, when the driver should stop the train. If he fails to do so, then, and only then, does the locomotive, by means of the electrical contrivance take the control out of his hands. It shuts off steam and applies the brakes. He cannot then drive until freed by some responsible person at a control. In the controls everything is similarly automatic. The system absolutely eliminates the personal element. If the driver makes an error the train stops. If the man at the control makes a mistake the same thing occurs. If the machine breaks the train still stops.

It is contended by some that a system of signalling now in use on the Midland, Great Eastern, and other railways would, had it been in operation at Mallerstang, have prevented the accident at Aisgill. After the Cudworth accident a Huddersfield firm who specialised in fog signals was asked to produce something effective and economical. As a result Clayton's patent "demonator placer" for railways was evolved and a number of these devices were installed on the lines at various busy spots. It may be remembered that after the Shrewsbury accident, Colonel Yorke recommended that detonators should be attached to signals, so that when the latter are at danger the detonator is on the rail, and will be exploded should the signal be overrun. Clayton's detonator is placed on the rail automatically, and should the driver from any reason overrun the signal the explosion which follows is bound to call his attention to the fact. When the signal gives "line clear" the detonator is removed from the line. Should the wire connecting the appliance with the signal break the detonator drops back on the rail, this directing attention to the breakage. The appliance costs about £3.

## Chicago and North Western Railway.

The Chicago and North Western Railway Company, which has a total mileage of 3,000 miles, has a capital of \$100,000,000 and a reserve of \$10,000,000. The company has a total of 1,000 locomotives and 10,000 passenger cars.

## North Eastern of Uruguay Railway.

The North Eastern of Uruguay Railway Company, which has a total mileage of 1,000 miles, has a capital of \$10,000,000 and a reserve of \$1,000,000. The company has a total of 100 locomotives and 1,000 passenger cars.

## Queenland's Prosperity Reflected in its Railways.

The Queensland Government has a total of 1,000 miles of railway, which is a record for any colony. The railway is a source of great prosperity to the colony, and the government has a total of \$10,000,000 in railway revenue.

London & S. Western	.. ..	Louisville & Nashville	.. ..
Metropolitan District	.. ..	Missouri Kans. & Texas	.. ..
Midland Def. Ord.	.. ..	New York Central	.. ..
North British Pref. Ord.	.. ..	N.Y., Ont. & Western	.. ..
North Eastern Cons.	.. ..	Norfolk & Western	.. ..
South Eastern	.. ..	Do. Preferred	.. ..
Do. Deferred	.. ..	Pennsylvania	.. ..
Do. 6 p.c. Bonds	.. ..	Reading Common	.. ..
		Southern Pacific Com.	.. ..
		Southern Common	.. ..
		Do. Preferred	.. ..
		Union Pacific	.. ..
		Do. Preferred	.. ..

Underground Electric	.. ..	U.S. Steel Corp. Com.	.. ..
Do. 6 p.c. Bonds	.. ..	Do. 7 p.c. Cum. Pref.	.. ..

## Foreign Railways.

Canadian Pacific	.. ..	Antofagasta Def. Ord.	.. ..
Grand Trunk of Canada	.. ..	Argentine Gt. Western	.. ..
Do. 4 p.c. Guaranteed	.. ..	Buenos Ayres & Pacific	.. ..
Do. 2nd Preference	.. ..	Buenos Ayres Gt. Strm.	.. ..
Do. 1st Preference	.. ..	Buenos Ayres Western	.. ..
Atchison Common	.. ..	Central Argentine	.. ..
Baltimore and Ohio	.. ..	Do. Deferred	.. ..
Chicago Gt. Western	.. ..	Cent. Uruguay of Mont.	.. ..
Chicago Mil. & S. Paul	.. ..	Cordoba Cent. Ord.	.. ..
Denver & Rio Grande	.. ..	Do. 1st Pref.	.. ..
Erie Common	.. ..	Cuban Central	.. ..
Illinois Central	.. ..	Mexican Ordinary	.. ..
		Do. 1st Pref., 8 p.c.	.. ..
		Do. 2nd Pref., 6 p.c.	.. ..
		Nitrate Ordinary	.. ..
		Ottoman (Smyrna to Aidin)	.. ..
		Un. of Havana Ord.	.. ..

## BANK RETURN.

The following is a statement of the assets and liabilities of the Bank of England for the week ended September 24, 1913.

Assets	Sept. 24 1913	Sept. 17 1913
Gold	3,091,275	3,091,275
Foreign Reserves	69,288	69,288
Other Assets	25,117	25,117
Total Assets	3,185,680	3,185,680
Liabilities		
Reserve Ratio	58.34 p.c.	58.34 p.c.
Other Liabilities	1,289,845	1,289,845
Total Liabilities	1,289,845	1,289,845

## The Methodist Railway Company, Limited.

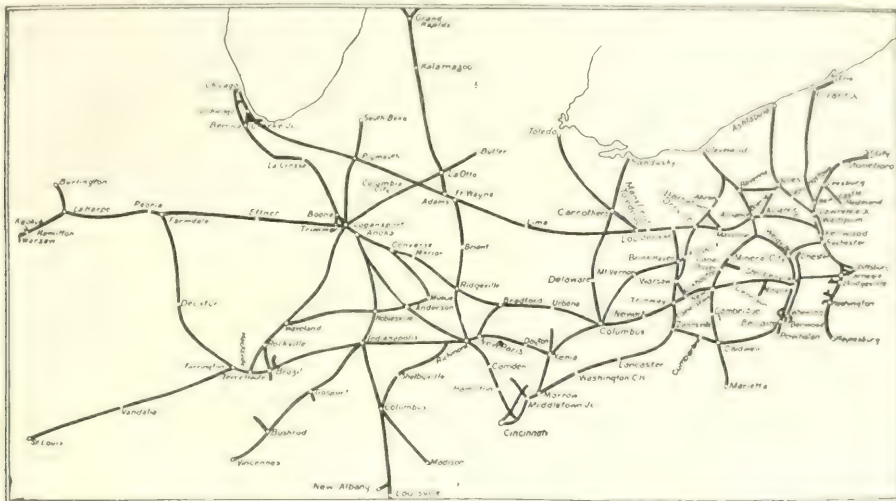
The Methodist Railway Company, Limited, has a total mileage of 1,000 miles, and a capital of \$10,000,000. The company has a total of 100 locomotives and 1,000 passenger cars.

Novel Method of Tunnel Boring. The Methodist Railway Company, Limited, has a total mileage of 1,000 miles, and a capital of \$10,000,000. The company has a total of 100 locomotives and 1,000 passenger cars.

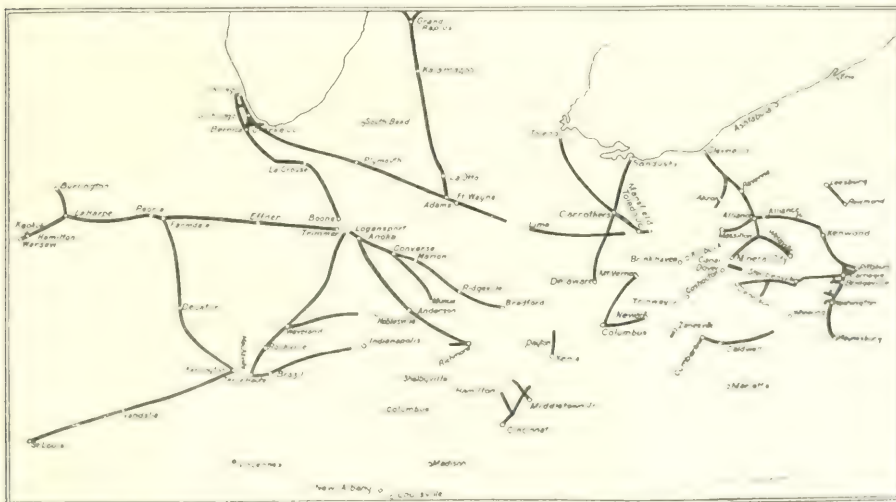
## FLOODS AND THE PENNSYLVANIA RAILROAD.

In a recent issue we reported briefly on the great damage caused by floods to the passenger service of the Pennsylvania Railroad between Pittsburg and Columbus, and we now reproduce, with some further notes, maps and illustrations which give some idea of the extent of the calamity. These are taken from a pamphlet issued by the company. The floods, which occurred last spring, affected the States of Indiana, Ohio,

village the Muskingum produced a raging lake 51 miles long; and this over the main line of the Pennsylvania Railway between Pittsburg and Columbus. On the north was found another evidence of the same cause. A great flood of water covered the main line of the Pennsylvania between Pittsburg and Chicago. These "lakes" were filled with rushing, boiling currents so powerful that, during the zenith of their existence, no ordinary boats could live in them. They tore out embankments, carried steel-girder bridges long distances



Pennsylvania Lines West of Pittsburg, before the Flood.



Pennsylvania Lines after the Flood. The Breaks show where the Track was out of Commission.

and western Pennsylvania. The pamphlet not only gives a comprehensive account of the damage but also describes the steps taken to repair it. The following are some extracts:—

There is a watershed running north-east and south-west through the northern part of Ohio. To the south it drains by the valleys of three rivers into the Ohio river. Dayton, Zanesville and Columbus are the three principal cities in these valleys. Each one had the flood of its existence. In Ohio alone there were destroyed 22,000 houses, while 35,000 were seriously damaged by water. A few miles above Zanes-

and eroded away the soil of thousands of acres of fertile land, depositing in its place sand and gravel and stones.

Generally speaking, there fell on this Ohio watershed, in less than three days, more than three months' normal rainfall. And it came when the ground was thoroughly soaked and every river and stream filled to its limit. The only wonder is that the damage and the loss of life were as small as they were. Governor Cox says that in Ohio alone the population affected numbered a million and a quarter souls, and that the



This was the situation that confronted the Pennsylvania Railroad in the last week of March, 1913. Its lines all through Ohio, running from east to west and from north to south, were literally shot to pieces. Bridges were gone; tracks and embankments swept away—holes in a thousand places; no through line anywhere. Its telegraph and telephone system,

destruction on the various lines, of trains being held up, and of the means taken for relief of the passengers.

No railroad knew or could find out what sections were available for use; but by roundabout methods, by "feeling," for want of a better term, or "smelling," some sort of connection was always possible. A wire would work so far, if



Franklin Bridge, Newcastle, Pa. Old Black Bridge lodged against it



Bridge over White River at Muncio, Indiana.

in Ohio averaged from 7 in. to 8 in.



Bridge at the moment it fell



Franklin Bridge Total collapse



only intermittently. This point reached, feelers would be put out, and in the end there would be made some sort of a means of communication. Of course, the different sections of the railroads, with all their possibilities in the way of freedom from flood damage and quick rehabilitation, were known, and with these as a foundation the work of relief began.

As early as Tuesday night, March 25, the "Board of Strategy" was in session in Pittsburgh. From that time until Sunday, April 5, it was in continuous session day and night. The "Board of Strategy" was made up of the higher general officers of the road and their assistants, with their consulting staff of engineers, motive power and transportation men. Everything was done in the name of the general manager. What was going on in the sixteen divisions of the road was reported to this Board, and it was thus in absolute control of and in touch with the situation. Its information was made



Remains of Bridge No. 83 over Kokosing River.

possible by the work of the superintendent of telegraph, who had moved his offices next to that of the Board of Strategy, and was there carrying on his campaign of wire restoration. For the first 36 hours every one was on duty; after that they averaged 18 hours a day individually. The three general superintendents of the three systems—the North, the Central and the Southwest—established headquarters where they could be in touch with their own divisions and with the quarters at Pittsburgh.

A description follows of the railroad's organization for repair work, and the energy shown by the engineering and repair staffs in tackling the disaster is well brought out. It is pointed out that the broken bridges must be replaced by permanent steel structures before the winter and spring freshets come on. The temporary work will not hold when

the ice goes out in the rivers again. The day after the big foot-iron-plate bridge was out at J. . . . placed for an entire new bridge of larger dimensions than the one destroyed, and the same day the mills had begun on the order.

The arrangements for providing food, rest, warmth and comfort for staffs of men who carried on the work day and night were of an elaborate and effective character. Temporary camp cars were largely employed. Emergency material trains were extensively used.

The following figures give an idea of the total amount of damage on the Pennsylvania system:—

Number of bridges lost .. .. .	24
Number of bridges damaged .. .. .	50
Number of spans lost .. .. .	39
Number of spans damaged .. .. .	45
Bridges lost—Length in feet of road .. .. .	3,597
Bridges lost—Length in feet of single track .. .. .	4,318
Bridges damaged—Length in feet of road .. .. .	1,600
Bridges damaged—Length in feet of single track .. .. .	1,800
Length of trestle built for single track, in miles .. .. .	1.94
Length of trestle built for double track, in miles .. .. .	0.66
Length of trestle built for three tracks, in miles .. .. .	0.02
Length of trestle built—miles of road .. .. .	2.92
Length of trestle built equivalent to miles single track .. .. .	3.92
The estimated cost of these trestles is \$336,144.	
Length of single track road requiring repairs, in miles .. .. .	88.7
Length of double track road requiring repairs, in miles .. .. .	41.1
Length of three-track road requiring repairs, in miles .. .. .	2.5
Length of four-track road requiring repairs, in miles .. .. .	2.8
Length of road requiring repairs, equivalent to miles single track .. .. .	189.6
The estimated cost of these repairs to the road is \$1,396,200.	

In addition to the above, damage to stations and other buildings was \$70,900; to equipment, \$84,285; and to telegraph lines, \$107,505.

The direct property loss to the Pennsylvania is estimated at \$3,000,000 in round numbers, and it provides the most pertinent of arguments for allowing the railroads to so fix their rates as to provide for a surplus. The cost of repairing, under the ruling of the Inter-state Commerce Commission, must be charged to operating expenses. So heavily have low compulsory rates weighed on many of the public utilities companies that the damage done by the flood has wiped out the surplus of many of them and they are now in the hands of receivers. Others have been very badly crippled.

#### MIDLAND ENGINE DRIVER COMMITTED FOR TRIAL.

As the result of the inquiry into the collision at Aisgill of Sir A. P. Douglas, who died from injuries received in the railway collision at Aisgill, a coroner's jury at Carlisle returned a verdict of manslaughter against Samuel Caudle, the driver of the train which passed the signals and ran into the stationary train. The Coroner admitted Caudle to bail on his own recognisances of £50 to appear at the Cumberland Assizes, to be put upon his trial for manslaughter. Caudle, in his evidence, said he was looking to the boiler at the time. His difficulty was in choosing between the boiler and the signals, and he chose wrongly.

At Strabane on Monday, Neil Fullerton and William Doherty, driver and fireman respectively of the excursion train involved in the accident at Donemara, Ireland, were committed for trial on a charge of having driven in such a manner as to kill a man and injure several other passengers.

#### A NATIONAL UNION OF EMPLOYERS.

Under the title of the United Kingdom Employers' Defence Union an association has been formed to consolidate the resources of employers of labour and to maintain their freedom to bargain with free workers or collectively with trade unions. The leaders of the movement do not intend to espouse an anti-trade union policy, but a guarantee fund will be formed to deal with strikes. It has been arranged that all calls on this fund shall not exceed 7½ per cent. in any one year for securing protection for men willing to work and employers willing to employ. Lord Avebury, the Duke of Bedford, Sir John Bingham, Lord Dysart, and Sir Arthur Clay are among the supporters of the movement.

#### THE CHANNEL TUNNEL SCHEME.

The first subject considered at the inaugural annual Congress of the Franco-British Travel Union, which is being held at Marble Arch House, London, this week, was the proposed Channel Tunnel. The project was brought forward on Tuesday evening in the papers prepared by Baron Emile d'Erlanger, chairman of the Channel Tunnel Company, and by Sir Francis Fox, the consulting engineer.

The subject was more worthy of the study of the Franco-British Travel Union. There was a time when the scheme met with no official or private opposition in England, and maybe that opposition would never have been aroused had it not been for the rivalry between English railway companies which then contended for the Continental traffic. In 1876, as soon as diplomatic arrangements had been concluded, the French Channel Tunnel Company was formed, and it obtained from the French Government a concession which was officially communicated to the English Government. The French company still had that concession exclusively for the tunnel on the French side, and the company, which was under the auspices of the Northern Railways of France and of Messrs. Rothschild, had always worked in harmony with the English Channel Tunnel Company, and with the South Eastern and Chatham and Dover Railways, so that the English Channel Tunnel Company was the only recognised body to whom the concession could be granted, and the only company which could carry out the construction of the tunnel if the scheme were approved.

The French company spent £80,000 and bored 2,000 yards of tunnel. Meantime, a similar policy was followed in London. An Act was obtained by the Channel Tunnel Company to carry out a corresponding experimental operation in St. Margaret's Bay. Nothing, however, was done under that Act, but under a similar Act the South Eastern Railway Company sunk a shaft near Shakespeare Cliff, Dover, and from it bored a tunnel for a distance of 2,015 yards. These works were subsequently taken over and paid for by the Channel Tunnel Company now existing. In July, 1882, the hopes of the promoters were dashed to the ground, and operations suspended, by an order of the Board of Trade. Since then numerous attempts had been made to obtain the consent of Parliament to resume the work, the last being in 1907, when, finding that the Government was opposed to the scheme, the Bill was withdrawn. At a cost of something over 2,500,000 sterling, more than 4,000 yards of tunnelling had been made; thousands of soundings taken from shore to shore; and all the elements were at hand to enable work to be promptly resumed, and carried to a successful issue. The Channel Tunnel Company understood that the matter was now before the Committee of Imperial Defence, and they looked forward with confidence to the decision of that body, by which the Government would be guided.

In submitting the strategic, economic and financial arrangements upon which the scheme is founded, Baron Emile d'Erlanger stated that the entrance to the tunnel on the English side would be in the valley behind Dover Castle, where it would be fully exposed both to the direct and plunging fire of the forts, and it would be further defended by such additional precautionary devices as the Committee of Imperial Defence might recommend. Thence the tunnel would dip under the Channel for a length of 21 miles, emerging at Sandgate, near Calais. Twelve miles of the tunnel would be constructed by the English company, and twelve miles by the French company. A power station would provide the motive power for the trains, as well as electricity for lighting, and compressed air for the purpose of ventilation. The cost of the whole undertaking, including the construction of the tunnel, and the purchase of rights and plots existing on the English and French coasts, was estimated at £20,000,000 sterling, of which £8,000,000 would be provided by the French company, and £12,000,000 by the English company.

ESTIMATE NET PROFIT OF £1135,000 ON A CAPITAL OF  
£16,000,000.

The danger of invasion was discussed to-day by the best military critics as a chimera. The tunnel would give this country strategical advantages which made the tunnel a necessity to England. With the tunnel once constructed, our food supply was rendered safe and the Fleet could fulfil its primary duty—the finding and destruction of the enemy.

Military advantages were not, however, the only benefits which this country would reap by a submarine connection with France. In 1911 there were only 1,650,000 travellers between England and the whole of the European Continent. He had no hesitation in estimating that 80 per cent. of those passengers were English; and if they put the average expenditure of each of these at £20 per head, it would be seen that the drain of capital from England to the Continent was no less than £26,000,000 a year. The figures of trade, as instanced by the movement of merchandise between France and Germany, and France and England, were not less eloquent. From 1904 to 1911 the trade between France and Germany increased from £47,000,000 sterling to £81,000,000 sterling—an increase of 60 per cent. Within the same period the trade between France and England rose from £88,000,000 to £116,000,000 sterling—an increase of 30 per cent. only. These figures were the more striking when it was borne in mind that out of 12,543,000 tons of merchandise exchanged between England and France, 10,151,000 tons consisted of coal, leaving only 2,392,000 tons of general merchandise.

He thought that the tunnel would capture at least 65 per cent. of the Continental passengers, who at the normal rate of yearly increase would number 2,000,000 at its opening if construction were at once begun. At a fare of ten shillings per head, that would secure an income of £650,000. The transport of luggage would add 10 per cent. or £65,000, and the postal service a further £40,000. It was not too sanguine to put the goods traffic at £800,000, and this would give a total of £1,555,000, while the total working expenses would not exceed £420,000 per annum, leaving a net profit of £1,135,000 on a capital of £16,000,000. In this estimate, however, no account was taken of the increase in passenger traffic which would result from the construction of the tunnel, and if they were to transport 3,000,000 passengers in a year, it was easy to see how enormously the profit would be swelled, though the fares would be substantially reduced. But the promise of so rich a harvest to the future investors in the undertaking was not the incentive by which his comrades and himself were spurred to fight for the tunnel. Their aim was higher than any possible monetary gain. The principal motive which inspired them was to indelibly engrave their names upon a page in the history of the civilisation of the world, and more especially on a page in the history of the two countries, England and France, which had for centuries on their separate paths done so much towards that civilisation, and which would do so much more if their young friendship were strengthened by the link he and others wished to forge—the Channel Tunnel.

#### SIR FRANCIS FOX'S MAIN FEATURES AND HIS FUTURE OUTLOOK.

SIR FRANCIS FOX said that when the proposal for a tunnel was first made at Dover in 1860, preference was given to a steam ferry. But since that date much additional information had been obtained, which justified the re-consideration of the whole subject. As regarded the proposed ferry, it had been proved that the difficulty of the rise and fall of the tide would necessitate the construction of costly harbours on both sides of the Straits, and that the transfer of the trains from land to steamer and from steamer to land would give rise to so much difficulty and delay that anything like regularity of service could not be secured. The existing train ferries between Germany, Denmark, and Scandinavia were great accomplishments, but by no means a perfect success. In a rolling sea a railway carriage was not a desirable place in which to be confined, and sea-sick passengers were not so well provided for as on an ordinary passenger steamer. The after results to the various compartments and the stiffness of the carriages were very undesirable. Moreover, a ferry could hardly cope with the three or four separate trains which now met the steamer—*the Paris, Brussels, Biscand, the Simplon express, the Channel*

*in dealing with which could not be otherwise than very prolonged.*

In describing the proposed tunnels, Sir Francis said that the work of construction would be greatly facilitated by the preliminary operations of the two companies at Dover and Sangatte. In 1876 and 1877 the French geologists Messrs. Potier and Lapparent took 7,600 samples of the bottom of the Channel, 3,267 of which they were able to utilise. The grey chalk through which the tunnels would be bored, if the scheme were sanctioned by his Majesty's Government, was 87 ft. thick at Dover, and 70 ft. thick at Sangatte. It was excellent material in which to work, possessing the peculiar property of gradually "puddling" itself, and becoming impervious. Containing no flints, it was, as far as could be ascertained, free from fissures and slides; but should a fissure be encountered, it could be easily and satisfactorily dealt with by means of the system of high-pressure grouting which had been introduced within the last five or six years. In the Mersey Tunnel his own firm (Sir Douglas Fox and Partners) had met fissures with which they had thus dealt successfully. A drainage heading would be driven from each side of the Channel, rising towards the centre, and connected at Dover and Sangatte with shafts for pumping and winding.

#### TWO TUNNELS 36 FEET APART—ELECTRIC TRACTION AND VENTILATION.

The main tunnels would consist of two single-track circular tunnels, each of 18 ft. net internal diameter, and thus large enough to accommodate the rolling stock of the British and French main lines, except only their locomotives, for which would be substituted electrical locomotives of ample power to deal with the heaviest trains running upon the main lines. At frequent intervals these tunnels would be connected by cross-passages with air-tight doors, rendering it easy to introduce currents of air, and to exchange workmen from one tunnel to the other. Including the junctions with the main lines of railway in England and France, the total length of each tunnel would be 31 miles, the actual length under water being 24 miles. The tunnels would be placed 36 ft. apart, and lined throughout by cast-iron segments, of ample strength to resist any possible pressure and grouted on the outside so as to secure a covering of cement which would not only prevent leakage into the tunnels, but also preserve the plates from corrosion. Assuming that 17 yards per day could be maintained for six days per week, the annual progress would be about three miles at each face, so that the driving of the drainage heading would occupy four years. Three shifts of men would have to be employed, and the changing would take place below and on the spot, no stoppage of work being allowed. This was the system adopted in the case of the Simplon tunnel, where the drills never stopped while the shifts were changing. An emergency door would always be kept in position near the "face" of the heading, not so much for actual use, but rather to induce confidence in the minds of the men at work. The drainage heading would be commenced and driven ahead at as high a speed as was found to be practicable, it being a matter for the directors to decide whether this should be completed before proceeding with the main tunnels, or whether they should be carried forward at the same time. It would be necessary to keep an efficient supply of air throughout the entire length of the heading for the men employed. This could be best effected by bratticing off the upper portion of the heading, thus forming a conduit of the required size for the volume of air, which would be blown in by high-speed fans. Such would be the primary ventilation, and permanent ventilation of the main tunnels would be established by blowing air in the direction in which each train was travelling. The traffic being electrically operated, the volume of air required was very largely reduced. To keep the tunnels pure and fresh, it would be necessary to supply 45,000 cubic feet per minute on each line of way, travelling at a velocity of 6 feet per second, which was equivalent to a very light breeze. The power required to induce this current of air, much assisted as it would be by the trains, would not be large, and the entire problem was simple as compared with that in many collieries through which not only were far greater volumes of air blown in order to deal with great

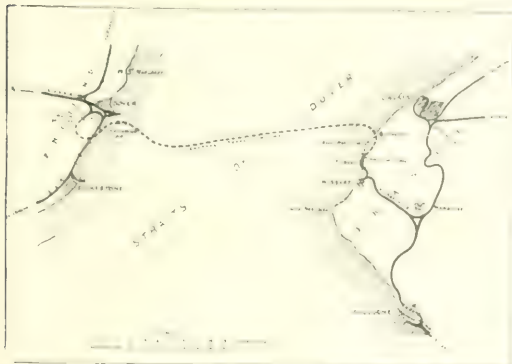
blowers of explosive gas, but the length of passages through which the air had to be driven or exhausted was considerably greater, and impeded by bends which would not exist in this case.



## SAFETY AND ADVANTAGES OF THE TUNNEL.

The project of the Channel Tunnel has been much discussed in the past. In the early days, built rolling stock for the London and Paris other expresses, no inflammable material should be used, and as the motors of the electric locomotive would be "armoured" against fire in case of short circuiting no danger would arise as regards the electrical working even from the employment of ordinary rolling stock. Assuming, however, that in spite of precautions any stoppage should occur in the tunnels, the passengers would readily pass along the tunnels in the rear of the train, where ample space would be available, as a footpath, clear of the electrical conductors. The passengers would thus be free from smoke, as the direction of the current of air would always be blowing from the rear of the train towards the front. In consequence of the large diameter of the tunnels, the electric conductors could be so placed as not to obstruct the permanent way or interfere with repairs.

The tunnels would be lighted throughout by electricity. A separate and special service would be provided, so that in the event of the main traction current failing, the lights in the tunnels would not be extinguished. Carriage lighting would be independent, each vehicle carrying its own store of light. Sanitary and hygienic regulations similar to those so successfully adopted at the Simplon tunnel would be enforced during the progress of the works. The French engineers had satisfied themselves as to the best position for the sorting sidings and station at Sangatte, and as to the site for the deposit of their moiety of the excavation from the shafts, heading, and tunnels. He and his partners concurred in their views.



Plans and sections for the proposed approach railways on the British side provided sorting sidings and a station near Maxton, just within the borough of Dover. These railways were well laid out to accommodate the traffic, and, in conjunction with the station, where the exchange of steam for electric locomotives and all necessary sorting of traffic would take place, would provide full and complete means of communication with both the existing main lines between Dover, London, and the rest of England. The station would be easily approached from Dover by an electric tramway, which passed very near the site. In the immediate vicinity there was a deep valley, affording a site for the deposit of soil. Good sites were also available for the generating stations, and one of the first operations would be to install a portion of the plant for construction purposes. Summing up the engineering questions relating to the proposed tunnel, his firm agreed with M. Sartiaux and Mr. Brady in the opinion that the enterprise was one that could be carried out with certainty and at comparatively moderate cost, the geological and other conditions being of an exceptionally favourable character for the construction of a submarine tunnel.

Great Britain had for centuries been regarded as insular, but now, in consequence of her vast possessions, the frontiers of her Empire extended for thousands of miles contiguous to those of other countries, and as a result of the invention of aeroplanes and air-ships her position as an island was at an end. One great factor in the proposal for a tunnel

and dishonourable peace, whereas, were a tunnel in existence, the mere knowledge on the part of the public that another and permanent route was open through which supplies could be drawn would go far to mitigate any such feelings of fear.

On the motion of M. Gaudier de Chassigne, seconded by Mr. Barton Kent, a vote of thanks was accorded to Baron Emile d'Erlanger and Sir Francis Fox. The attendance included Baron Frederic d'Erlanger, M. J. Gaudier de Chassigne, Dr. Lapeyre (Mayor of Fontainebleau), M. de Gallant (Mayor of Algiers), Mr. W. Hanning, President of the British Chamber of Commerce, Paris, Mr. Barton Kent, Mr. W. Whitaker, Mr. Alfred Sire (Northern of France Railways), and the following officers of the South Eastern and Chatham Railway:—Messrs. P. C. Tempest (chief engineer), E. C. Cox (superintendent of the line), John Avis (Continental traffic manager), and Charles Sheath (secretary).

## A RESOLUTION PASSED BY THE CONGRESS.

As the result of a sitting of the transportation section of the Congress on Wednesday morning, when two papers on "The Channel Tunnel and Franco-British Relations" were presented by M. Palmic, correspondent of *Le Journal*, and Mr. W. T. Perkins, late literary secretary to the Channel Tunnel Company, the following resolution was passed:—"That this congress, considering the importance of the proposed Channel Tunnel in the relations of Great Britain with the whole Continent, expresses the hope that the British Government may see their way to approve of the scheme, which is now being so favourably received by the people of this country, and they express great satisfaction that the project has been submitted for the consideration of the Committee of National Defence."

Mr. Perkins, in his paper, observed that there were signs that the military objections and fears were disappearing. It was in April last that the revival of the project was officially announced in the House of Commons. Questions were asked on several occasions by Mr. Arthur Fell, who afterwards ascertained that many of his brother members had abandoned the objections which they formerly entertained, and were now anxious to see the scheme carried out. Mr. Fell had not the remotest interest in the Channel Tunnel Company, or in either of the railway companies associated with it in the enterprise. Twenty-three years had passed since the opinion of the House of Commons was taken on the subject. On that occasion, Sir Edward Watkin's Bill was rejected by 234 to 153. That division had a peculiar significance to-day, notwithstanding the great alteration which had been witnessed in the composition of the Lower Chamber, inasmuch as those who then supported the proposal included Mr. Asquith, the late Sir Henry Campbell-Bannerman, Lord Gladstone, Mr. Lloyd George, and Lord Morley. As reference was often

made to the Bill, it was well to recall the fact that the Committee considered it highly probable that if the traffic of the tunnel were to expand, a time would come when the number of lines would be increased beyond two, and the carrying capacity of the tunnel proportionately increased. "It would be reasonable to anticipate," they said, "an immense development of the passenger traffic." The comparatively small number of persons crossing the Channel convinced the Committee that a large number were deterred by the inconveniences of the sea passage. Similarly the Committee believed that once open the tunnel would lead to a large expansion of trade between this country and the Continent. Lord Lansdowne, the Chairman, presented a long and singularly able report, in which he examined the scheme in every aspect. Three other reports were submitted, and in the end the Committee, by six to four, expressed the opinion that parliamentary sanction should be given to the proposal. The scheme had the support of Mr. Gladstone, Mr. John Bright, and the late Lord Salisbury, while Queen Victoria and the Prince Consort gave their ungrudging support to the construction of a submarine railway between England and France. He was permitted to read a letter recently received

from Lord Sedenham, who, as Colonel Sir George Clarke, acted as secretary to the Committee of National Defence. Writing on August 16 last, Sir George said:—"The military arguments against the tunnel would never stand the least examination, and are opposed to all the experience of war. They rest upon wild conjectures, in which imbecility on the part of the Government and of the people of this country is gratuitously assumed. At the same time, the need for the tunnel is becoming more apparent to our commercial men, and your position may be strengthened by the fact that you can now depend wholly on electric traction, which in certain respects, alters the conditions. I do not know what is proposed as to the generation of the necessary power; but if the French would agree to have the generating plant on this side of the Channel, the fears of the 'old women of both sexes' might be allayed."

The map given in another column formed one of the lantern views which were shown during Sir Francis Fox's contribution to the discussion. Sir Francis mentioned that the plan of the tunnel did not take a straight course owing to the carefulness with which it had been designed to pass through the grey chalk as revealed by the researches of the geologists.

### FRANCO-BRITISH TRAVEL UNION.

INNAUTURAL CONGRESS AT LONDON.

The Franco-British Travel Union, which was formed last year, held its first annual congress this week in London. Through the kindness of Baron Emile d'Erlanger, the meetings were held at Marble Arch House, London, W. On Tuesday, at the opening of the proceedings, Lord Montagu of Beaulieu invited the audience to send messages to the King and the President of the French Republic. That forwarded to King George expressed the hope that during his Majesty's reign the interchange of travel between Great Britain and France may greatly increase, and further the closer friendship of the two nations to the advancement of peace and prosperity. Later in the evening a reply was received from his Majesty expressing his thanks for the kind sentiments.

The inaugural address was given by M. DE COPPET, the French Consul-General, who said that the French Government had taken the liveliest interest in the success of the congress, which would result in a still closer feeling between England and France.

Lord MONTAGU reciprocated the Consul-General's sentiments of amity towards this country. He hoped as a result of the congress there would be an increased desire to travel in the beautiful and hospitable country of France.

Mr. LEVY CAEN, the general secretary of the congress, read a paper on the work of the congress and Franco-British travel. He suggested that English people did not travel on the Continent as much as it was supposed. The proportion of English visitors to France was far too small, and, on the other hand, England saw too few French people.

M. SARTIAUX, general manager of the Northern of France Railway, and Lord Rotherham were the presidents of the Transportation Section, which transacted its business on Wednesday.

On Thursday morning the following papers were read:

Mr. H. H. BOSSY read a paper on the possible extension of popular tours in France and in Great Britain, more particularly for the working classes. He suggested the advantages that might be obtained by the extension of the Northern of France Railway to the coast, and the extension of the British Railway to the coast, and the extension of the French Railway to the coast. He detailed the system of vacation clubs in this country, especially in the textile region. The members paid a small subscription, and were allowed to travel at a special rate. He suggested that a similar system might be adopted in France, and that the French Government might be induced to subsidise such a system. He suggested that the French Government might be induced to subsidise such a system. He suggested that the French Government might be induced to subsidise such a system.

Mr. T. D. HAWKINS, organising secretary of the Union, dealt with "The importance of English Tourist Agencies." The agencies arose as a consequence of competition for traffic between the various railway companies, continental traffic especially being thus greatly stimulated. Agencies had now great influence in the creation of traffic. They offered numberless combinations of travel, sold tickets and reserved seats,

passengers were conveyed at a return fare of 1s. This was the start of the travel and tour enterprise which has made the name of Cook a household word in all parts of the earth. The Great Exhibition of 1851 gave a marked impetus to this class of travel, some 165,000 excursion tickets from the provinces to London being then issued. The greatest of all impediments was difference of language, and the disinclination of English people to acquire foreign languages. He urged the adoption of Esperanto, which had been used at various congresses on the Continent.

### PUBLIC AUTOMOBILE SERVICE IN FRANCE.

Mr. CHARLES DU BOUSQUET, General Secretary of the Syndicate of Public Automobile Services in France, discussed the causes which led to the establishment of the Syndicate. It was one of the first practical results of the Congress on Automobile Services initiated by the French Automobile Club and the Touring Club de France. Its purpose was to bring together builders and managers of automobiles for the discussion of all questions, technical, administrative, industrial, economic, or relating to touring, as well as to building of motors, the construction and maintenance of roads, and all matters in this connection of interest to the trade and the public. There has also been formed a consulting board, on which the Ministries of War and of Finance are both represented.

### CUSTOMS HOUSE HINDRANCES TO TRAVEL.

In the Customs Section, Mr. PHILIP BERTIN, in a short paper, discussed improvements required in passengers' Customs House formalities. He pointed out that among the many suggestions offered, several were impracticable, such, for instance, as the examination of heavy luggage at the station of departure; on the other hand, the examination at the arrival stations in Paris had been considerably shortened. The proposal to examine hand baggage on board the steamers he rejected for the reason that the French tariff bearing upon many more articles than the British, it was not possible, especially in rough weather, for customs officers to examine as thoroughly as they were required to do. In his opinion, the true solution was examination on board the trains between Paris and Calais, Boulogne and Dieppe. This involved the substitution of corridor carriages for compartment carriages, but the speaker believed that if the plan were adopted, the change would speedily be made by the various companies concerned. A further and easy improvement was the regularising and organising of the examination on landing in France.

Mr. STENSON COOKE, secretary of the Automobile Association and Motor Union, also contributed a paper dealing with the need for improvements in Customs examinations. Much saving of time, he said, had recently been effected in the course of an experiment on the Calais-Dover route by an English officer examining the hand-baggage during the sea passage. He paid a tribute to the South Eastern and Chatham Railway for reforms which that company had secured. The only way to avoid the present system of the railway companies having to leave the unexamined luggage to follow by a later train was to have all luggage examined *en route*.

A paper contributed by Mr. MARCEL SIMON urged the adoption in France of the British farmhouse system of receiving lodgers or boarders, with a view to providing accommodation for the large class of persons who could not pay the prices charged by hotels.

### FRANCE AND PUBLICITY.

Thursday morning was devoted to discussions on attractions and sports and travel publicity. On the latter subject Mr. J. BECKLAND, of the Harrogate Corporation, suggested an exchange of publicity between British and French Development Associations. To overcome the handicap of French, German and Belgian people being deprived of facilities for going abroad, the English spas had started advertising in foreign newspapers. The result was seen at Harrogate in the visits of members of royal families from Portugal, Greece, Russia and Germany during the past two seasons.

Mr. T. D. HAWKINS, organising secretary of the Union, dealt with "The importance of English Tourist Agencies." The agencies arose as a consequence of competition for traffic between the various railway companies, continental traffic especially being thus greatly stimulated. Agencies had now great influence in the creation of traffic. They offered numberless combinations of travel, sold tickets and reserved seats,

and issued hotel coupons. It was possible for any one person to arrange the longest trip in a single office, and in the event of meeting with any difficulty while travelling, find agents or correspondents of agencies all over the world. Agencies could not be expected nowadays, when traffic had reached enormous proportions, to do all the work they did at the outset, and substantial help must be given them by the companies.

Mr. H. HILL, in dealing with the conditions necessary for a good poster for advertising the travel and health resorts of Great Britain, said the most important point in this country was the colour scheme; the public did not look for posters, it must be attracted by them, and a patch of brilliant colour was the surest way to do this. The object should be simple and simply treated, with little or no decoration, suggesting the very essence of the place. Health and high spirits should be the dominant note. Figures must not be appendages, and they must be natural. Any phrase should be brief and to the point, for more than one poster had owed its success to apt phrase. Lettering should be used in moderation. The post-impressionist style should be avoided in the design; clever as it was, it was not suited to good advertising. The speaker discussed the best places for posters, putting the railway stations easily at the head, and next the large boardings.

Mr. F. L. LEIFNIK, organising director of the International Exhibition of Touring, 1914, drew attention to the Exhibition to be held next year as an excellent opportunity for a practical demonstration of the natural beauties, health resorts and sporting grounds of France.

A report was to have been presented on the response made by railway companies and various societies to the request for information, which is to be included in a bibliography of travel publications for French and British districts, but on account of the great quantity of matter received the subject was referred to the committee.

The Conference was continued yesterday (Friday). During the week excursions took place to Windsor, St. Albans (motor car), Letchworth, Harrogate, York, Cambridge and Bournemouth. The outing to the latter place was on the invitation of the London and South Western Railway Co. The Congress circular stated that support was given to the Congress by the Great Eastern, Great Northern, London and North Western, London and South Western, Midland, and East Coast Joint Railway Companies.

### LECTURES FOR RAILWAYMEN IN LONDON.

One result of the re-organisation of the evening schools of the London County Council as commercial institutes will be seen during the ensuing session at the Choumert Road Schools, Rye Lane, Peckham, S.E. A course of lectures for railway officials, clerks, etc., has been arranged to take place on Wednesday and Thursday evenings, beginning on October 15. Mr. Baker Welford, M.A., barrister, will deal with the law of carriage by railway, Mr. Jones with railway accounts and finance, and railway statistics and economics, and Mr. Green, M.A., with railway geography and general geography. The syllabus is appended:—Law of Carriage.—Goods—Obligations, facilities, delivery, empties, bye-laws, contracts, rights, animals, luggage, recovery, risks. Persons.—Responsibility, negligence, offences. Railway Accounts and Finance.—Station accounts, head office accounts, general finance. Railway Economics and Statistics. Evolution of the steam engine, financial crises, railways reviewed in relation to their capital cost and the net revenue they must earn to pay a unit of dividend. British, American and Continental systems compared and discussed in detail, problem of State management. The fee for the complete course is only five shillings.

### Safety Exhibit Car on the New York Central

of employees. The New Central Railroad Company has placed in service an instruction car. Along each side of the vehicle are

moving parts. On the walls are several rows of pictures. Some of these portray unsafe practices that cause accidents to the employees and others. Alongside of each of these pictures is an illustration of the safe

### REPAIR CAR FOR OVERHEAD ELECTRIC LINES.

was constructed by the Waterloo, Cedar Falls and Northern Railway, Waterloo, Ia., from an old four-motor double-end passenger car, 40 ft. 6 in. over all. The method of supporting and elevating the adjustable platform on the roof of this car is of particular interest. The platform is approximately 6 ft. square and is fitted with a folding hand rail on all sides. It is centred on a 7-in. pipe which extends down into the body of the car. The lower end of this supporting pipe is inserted in an 8-in. pipe mounted in a casting on the car floor, and the entire vertical structure is braced at the top with struts extending in four directions to the deck rail, as illustrated. The inner pipe has bar-iron lugs which extend through slots in the surrounding pipe. Light cables attached to these lugs pass over pulleys supported on the braces near the roof of the car, thence to a winch bolted to the car floor beside the pipe platform supports. The slots in the exterior pipe are long enough to permit a 5-ft. lift to the platform.

To relieve the strain coming to the elevator cables when the platform is in use by repairmen, two other slots near the top of the exterior pipe are fitted with small iron blocks which may be clamped against the interior pipe by means of an ordinary strap-iron pipe clamp. In order to facilitate



clamping and releasing of the adjustable platform in any position, this clamp is fitted with a hand wheel which is accessible from the car-floor level.

In addition to the adjustable platform on the line-car roof a 24 in. runway provided with a low pipeguard rail extends the full length of the car body on both sides of the monitor deck. A set of two chains and hooks attached to the side of the car body near the bottom of the underframing, one at each end of the car, is so arranged that two poles may be fastened and transported over the road.

The standard practice in overhead line construction on this railway is to string the trolley and messenger wires with current on the line. In order to accomplish this with the new line car, two 12-in. sheaves have been set in the roof near the reel rack. Trolley or messenger wire is fed through this set of sheaves, which must be in the front end of the car when doing this work, thence over the elevated platform where the linemen may tie the wire in at each pole. Other equipment in the car includes an ordinary laundry stove for heating or cooking, a complete installation of shelving, bins and tool racks, and a Johnson's first-aid cabinet. A large cupboard for storing wire and a set of lockers for linemen's tools and clothing also form part of the interior fittings. The remaining floor space in the car interior is sufficient to permit five miles of trolley or messenger wire on reels to be carried at one time. Two 5-ft. sliding doors, one at each end of the car just back of the bulkhead, lead to the handling of line material from an elevated platform to the car body.

### Camera Shows on Trains



## MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

- Southport and Cheshire Lines Extension Railway. Annual Meeting, 1913, at 12, North Street Station, Southport, at 12.
- Ottoman Railway from Smyrna to Aidin. Annual Meeting, 1913, at 12, North Street Station, London, at 12.
- North Eastern of Uruguay Railway. Annual Meeting, 1913, at 12, North Street Station, London, at 12.
- Canadian Pacific Railway. Annual Meeting, 1913, at 12, North Street Station, London, at 12.
- Newhaven Harbour. Annual Meeting, 1913, at 12, North Street Station, London, at 12.
- Assa Railways and Trading. Annual Meeting, 1913, at 12, North Street Station, London, at 12.
- Grand Trunk Railway. Annual Meeting, 1913, at 12, North Street Station, London, at 12.

## ASSAM RAILWAYS AND TRADING.

The report of the Assam Railways and Trading Company, Ltd., for the year ending 31st March 1913, has been published. The report shows a net profit of Rs. 1,86,094 after payment of interest, etc. The number of passengers carried since the union had increased by 32.21 per cent. There was a loss of Rs. 239,915 in the harbours. The report also mentions that during the year the total output of coal from the collieries of India and Burma amounted to 14.71 million tons, as compared with 12.72 million tons in 1911; while the imports of coal from the United Kingdom fell from 245.04 thousand tons to 144.80 thousand tons. The average rate for all descriptions of goods carried per ton per mile was 0.06 pence, or just under a halfpenny.

The report for 1912 of Mr. W. W. How, general manager of the Union Railways, issued at Cape Town on September 15, states that the total earnings were £12,247,027, the expenditure £7,873,344, and the net profit £1,866,094 after payment of interest, etc. There were notable increases as compared with 1911 in the number of passengers and the amount of goods carried, especially as regards South African produce. The number of passengers carried since the union had increased by 32.21 per cent. There was a loss of £239,915 in the harbours.

Referring to the Rand disturbances of last July, the report emphasises that no federation of trades can successfully negotiate on behalf of the railwaymen, as such federations are, the report says, totally unacquainted with conditions on the railways and have no identity of interests with the railwaymen. It contends that the Union railwaymen are probably paid the highest wages of any railway staff in the world, and that the union has increased its additional staff employed to meet the increase of traffic. Generous pensions, leave and sick fund are also mentioned. Unemployment was more than 10 per cent, the department being utilised as a working house for the syndicalist theories which recently came into vogue. The report pays a tribute to the loyalty of the railwaymen during the recent disturbances, especially in the Rand.

## THE RAILWAYS OF INDIA IN 1912.

The administration report on the railways of India for the year 1912 was published in a blue book, issued recently. During 1912 the railways of India opened up to 33,484 miles. At the end of 1912 there were 2,455 miles of line sanctioned or under construction. The financial result to the State of the working of the railways was a net gain of Rs. 82,33 lakhs (£5.49 million). The total capital at charge amounted to £334.50 million, and on this the net revenue of the State railways for 1912, £17.89 million, gave a return of 5.35 per cent.

The net earnings yielded a return on the capital outlay on open lines of 6.77 per cent., as compared with 5.87 per cent. in 1911. The total number of passengers carried was 47.13 million, against 38.86 million in the preceding year, while the earnings increased from Rs. 1,840.08 lakhs to Rs. 1,956.48 lakhs. The number of third-class passengers carried was more by 27.99 million; and the average rate charged to passengers of all classes was 2.4 pence per mile, just over one-fifth of a penny.

There was an aggregate tonnage of goods moved during 1912 of 78.47 million tons, and the earnings therefrom were Rs. 3,791.84 lakhs, an increase over the previous year of 7.21 million tons and of Rs. 498.52 lakhs in earnings.

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During the year 2,145 persons were killed and 2,109 injured in railway accidents, 206 of those killed and 793 of those injured being passengers, the number of passengers killed representing a proportion of .02 per million of passengers travelling, and one for each 2,188.41 million miles travelled.

Frequent communication had passed between the Government of India and the commercial community in reference to the problem of congestion. Generally speaking it may be said that, while the traffic carried in the cold weather of 1912-13 was even heavier than that of the corresponding period in the previous year, the congestion was far less acute, and with a vigorous prosecution of the existing railway policy there are good grounds to hope that a marked and progressive improvement will now be visible in each successive year.

In respect to a number of important works which were in hand for improving the carrying capacity of the lines, it is mentioned that work in some parts had been delayed on account of the late arrival of materials from England due to the strikes. The increasing interest taken in the promotion of branch-line companies for the construction of feeder railways had been a marked feature of the year, and at the close of the year there was an aggregate of 1,496 miles of railway under consideration, involving a capital outlay of 7.88 crores of rupees.

## SOUTH AFRICAN RAILWAY REPORT FOR 1912.

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Referring to the Rand disturbances of last July, the report emphasises that no federation of trades can successfully negotiate on behalf of the railwaymen, as such federations are, the report says, totally unacquainted with conditions on the railways and have no identity of interests with the railwaymen. It contends that the Union railwaymen are probably paid the highest wages of any railway staff in the world, and that the union has increased its additional staff employed to meet the increase of traffic. Generous pensions, leave and sick fund are also mentioned. Unemployment was more than 10 per cent, the department being utilised as a working house for the syndicalist theories which recently came into vogue. The report pays a tribute to the loyalty of the railwaymen during the recent disturbances, especially in the Rand.

## The Abandonment of the Buenos Ayres Railway Market.

The Buenos Ayres Railway Company has decided to abandon the market for the sale of its shares. The company has been unable to find a market for its shares, and has decided to abandon the market. The company has been unable to find a market for its shares, and has decided to abandon the market. The company has been unable to find a market for its shares, and has decided to abandon the market.

**King's Lynn Docks and Railway.**—The half-yearly meeting of the King's Lynn Docks and Railway Company was held in London. Mr. William Patrick, who presided, said he was surprised to find decreased income from rents. The explanation was that in June the warehouses were empty. At the present time, however, they were full. As compared with the corresponding half of last year the imports had increased by 12,267 tons, and the exports by 17,149 tons. The imports of maize increased by more than 3,000, oats over 2,000, and sawn timber nearly 11,000 tons. Labour troubles were experienced a month or six weeks ago, when several ships were laid up with cargoes on board because the men refused to work at the old rate of wages, and the manager had to give way to a certain extent to the men's demands. At the same time the timber

their men. A good deal of the increase could be recharged to shippers, but it was a great pity to have to do so, because Lynn already had the credit for being a dear port. It was proposed to pay 2½ on the consolidated stock, against 2½ last year. The report was adopted, as was also a resolution authorising the

## DIVIDEND ANNOUNCEMENTS.

cent. on the preferred shares has been declared, payable on

£24,720 to be carried forward.

dividend of 1 per cent. on the preferred stock, payable on October 15.

**SAMANA AND SANTIAGO RAILWAY.**—An interim dividend at the rate of 10 per cent. per annum (10s. per share) on the ordinary shares for the past half-year. A year ago the dividend was at the rate of 8 per cent.

**PEMERARA RAILWAY.**—Dividend for the half-year ended June 30, 1913, at the rate of 3½ per cent. per annum on the preferred ordinary stock. A year ago the dividend was at the same rate.

**CARRIZAL AND CERRO BLANCO RAILWAY.**—The directors have found it necessary to pass the dividend for the half-year ended June 30 owing to large disbursements for new rolling stock, etc. The accounts would have admitted a distribution of 2 per cent.

**WESTERN RAILWAY OF HAVANA.**—The board recommend out of the balance of net revenue for the year ended June 30 last available for distribution a dividend of 7 per cent., less income-tax, on the ordinary shares, transferring £10,000 to reserve account, £5,000 to insurance fund, and carrying

**HOUSES, LTD.**—The board recommend a dividend of 5 per cent., less income-tax, on the ordinary stock, the transfer of £125,000 to reserve account, £50,000 to general renewals reserve, the transfer of £5,000 to insurance account, £20,000 to a pension fund, to write off £15,000 from the balance of extraordinary expenditure on works, and to carry forward £16,330. A year ago the dividend was at the rate of 4½ per cent., £75,000 was placed to reserve account, £50,000 to general renewals reserve account, £10,000 to insurance fund, and £17,881 was carried forward.

**Solent Tunnel Scheme.**—The Isle of Wight County Council is giving consideration to the question of constructing a Solent tunnel to connect the Isle of Wight with the mainland.

## GENERAL NEWS.

## NEWCASTLE COAL FOR RUSSIAN RAILWAYS.

in Newcastle and other markets. This is in addition to

will have to be supplied from various steam coal markets to Russian ports. The new business has been created by the

A supplementary inquiry has reached the market for 160,000 tons for North Russian railways, to be delivered at Riga and other Russian ports.

## RAILWAY ELECTRIFICATION.

and Plencia is to be converted to electric traction and the track is to be doubled.

Orders are about to be placed for four electric locomotives at an approximate cost of \$75,000 each, to be used on the Castlegar to Rossland line of the Canadian Pacific Railway, which is to be electrified. The completion of the electrification of this route is expected to overcome the difficulties now experienced on the heavy grades on the Rossland hill, and a material reduction will be made in the time of the run from Castlegar to Rossland.

## CANADIAN GRAIN TRAFFIC.

One of the Canadian railway problems is to provide sufficient trains to convey grain to the elevators. A report, just issued by the Department of Trade and Commerce, shows that a suggestion is being made to meet some of the difficulties by the creation of sample markets, though it is admitted that even sample trading might tend to delay the transportation of some of the cars. The railway companies are opposed to sample markets whether the State or the companies own the lake terminals, because, they say, sample trading will make transportation more difficult and will require larger yards at the points where the sample markets exist, and will delay the cars at these points so much that the greatest blockade Canada ever saw will be brought about. They point to the fact that the Exchange closes earlier on Saturday, and keeps closed on Sunday, and Monday too if at any time Monday is a legal holiday, and they contend that this fact alone would bring about a weekly blockade. The transportation side of sample trading is being investigated by the Railway Commissioners; it is not in the hands of the Grain Commissioners. The Grain Commission points out that sample trading exists in every grain market in the United States without such a weekly blockade, and that by having sample markets both at Winnipeg and Fort William the cars need not be detained all that time in Winnipeg. There is associated with this problem, too, the matter of storage, and on this point the report says that the day may come in Canada when the railways will have tracks, cars and engines enough to enable the grain to be handled with the minimum amount of storage capacity. It is admitted that though it is often said that too little is being done in the way of increasing transportation and storage facilities, great efforts have been made to keep up with the increase in production, and that the railway companies have been making serious efforts to keep up with the situation. The construction of the Canadian Northern Railway and the Grand Trunk Pacific Railway had undoubtedly done much to improve matters, but even then production might easily pass the handling capacity. The aim is merely to enlarge, but to modify the present system of handling grain.

The Canadian Pacific Railway Company has 4,000 cars and 1,171 locomotives to handle the export of the company's western lines. From September 1 to date the Canadian Pacific Railway has been loading, on the average, 350 cars of grain per day.

### TRAVELLERS' LUGGAGE.

The charges for the collection and delivery of passengers' luggage in advance are to be increased from 1s. to 1s. 3d. per package within specified areas and from 1s. 6d. to 1s. 9d. outside those areas. Ninepence per package is to be charged for carted luggage instead of the present rate of 6d.

## NEW RAILWAY PROJECTS.

**AUSTRALIAN NORTH TO SOUTH SCHEME.**—A flying survey of the proposed trans-continental railway, to traverse Australia from north to south, has just been made, and gives an excellent route, presenting no engineering difficulties for railway construction.

## PERSONAL.

[illegible]



from a losing concern to be one of the leading railroads in the

Mr. A. H. Stanley, the managing director of Central London Railway Company, City and South London Railway Company, London Electric Railway Company, London General Omnibus Company, Metropolitan District Railway Company, and Underground Electric Railways Company of London, is

Victoria Street:—"Mr. Stanley, who has become an outstanding figure in the regeneration of London traffic facilities, while of English birth, received his training wholly in the United States. Prior to his appointment to the London Underground System he was general manager of the Public Service Corporation of New Jersey. He has brought to his high office a remarkable knowledge of all questions associated with traffic, and he has grasped the essential truth that if you go the right way to work to help the public, the public will reciprocate, and hence it follows that the smoothness and celerity with which the London Underground Railway operates is due to two factors: the amazing improvement in the service and the splendid co-operation of the public. To have secured either of these meant much; to have accomplished both suggests an intuition and a deep-seated knowledge of traffic and people, which is as remarkable as it is rare."

Mr. Johnson, Chief Commissioner of Railways, New South Wales, said that so far as he could see that would be his last appearance before the Association. At that time next year he would probably be somewhere in Europe, gazing on some snow-clad mountain and smoking the pipe of peace. The Hon. J. Wetherspoon, in moving a vote of thanks to Mr. Johnson, said he was sure the Conference would like to see the Chief Commissioner appointed for another term. A few months ago the house of which he was a member tried to alter the Board of Commissioners of Railways, but they determined that Mr. Johnson and his colleagues should be the men who should handle that big undertaking. In reply, Mr. Johnson said it had been his privilege to have a little to do in the development of the railway system of a great State. He had always endeavoured to do what he thought to be right. In his earlier remarks Mr. Johnson mentioned that six years ago he told the Treasurer that it would be necessary to spend ten millions of

ing new railways, duplications, new buildings, and land, the total expenditure had been £6,640,000. He should be a little disappointed if during the next eight months the expenditure did not reach nearly twelve millions. These sums did not include the outlay on the tramway systems.

## RAILWAY NOTES.

**The Charge per Mile for Special Trains.**—In view of the increase

**Nine-Hour Day for Shunting Hands.**

has, it is reported, offered to concede a nine-hours day for engine drivers and firemen on shunting engines.

**South Coast Railway Enterprise.**

"Southern Belle," which runs between London and Brighton, is now being built by the London, Brighton and South Coast Railway Company for the Eastbourne service.

**Railway Rates.**

Commerce, after discussing the question of contracts made prior to the issue of the notice of increased railway rates, has resolved to take the opinion of the Board of Trade on the point.

**Persian Railway Schemes.**—The survey party for the Moham-merah-Khoramabad Railway, an agreement with regard to which was entered into between the Persian Government and a British syndicate early in the year, left England on September

25. The Persian Railway Syndicate has appointed S. P. as n

recently fined at Chelsea for drunkenness, and Sir Benjamin Scott remarked that it was a serious thing indeed when the had serious railway accidents, that their lives had to be trusted

drunk at nine o'clock in the morning created a feeling of dismay.

**A New Station.**

and the port of Leith, has been placed by the North British

months.

**Road Motors for South African Railways.**

Car Company, Limb L, have received an order from the South African Government Railways for twelve 22 h.p. Albion omnibuses. This is the largest order ever placed by the South African Government, and is the result of the previous satisfaction they have had with the Albion vehicles which they pur-

**A Yorkshire Train Running Season.**

subject to the withdrawal of the proposal for a short junction line, and to the production of evidence as to the intended means of raising the capital.

**British and Irish Exhibition Trains for Canada.**—The Canadian Chamber of Commerce in London is in communication with similar organisations in the provinces for the purpose of sending a train from Quebec conveying British manufactures through-

annual cost would amount to about £2,040 per car. Spain

A similar project is contemplated for Irish goods.

**Wellington Station Improvements.**

Great Western and London and North Western Railway Companies have prepared a scheme of extension and development at Wellington, Salop. The station will be re-arranged, the feature of the scheme being the extension of the island platform. A road bridge will be widened and extended, and a number of loop lines made. The whole scheme is computed to cost nearly

**Parcels Traffic on the South Western Railway.** Efforts are being put forward by the London and South Western Railway Company to secure a greater share of the London parcels traffic, which of late years has been to a great extent captured by motor companies. The following reductions have been made in the charges:—Not exceeding 8lbs. 4d., instead of 6d., as for-

**No Diversion of Western Canadian Traffic to United States Ports.**

—Mr. Smithers, chairman of the Grand Trunk Pacific, says that the company has no intention of diverting the western Canadian traffic to American ports by the utilisation of a portion of the new line from Winnipeg to Cochrane, Ontario, and making a connection thence with the existing Grand Trunk system. The company, he says, realises that the

**Cape to Cairo Railway.**

the Cape to Cairo Railway. According to Mr. Percy C.

has crossed into the Congo from North West Rhodesia to a place called Elizabethville, which formerly consisted of a collection of ant hills, 2,320 miles from Cape Town, to which point trains are now running regularly. From Cairo, the rails of Khartoum, or right into the heart of the Sudan

**An Extension of Passes.**

exhibit in the hall of a West End museum.

**Railways and the Daylight Saving Bill.** Mr. W. Wilford, the



## RAILWAY STOCK AND SHARE LIST.

### HOME RAILWAY ORDINARY STOCKS.

NAME.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.	1939.	1940.	1941.	1942.	1943.	1944.	1945.	1946.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.	1957.	1958.	1959.	1960.	1961.	1962.	1963.	1964.	1965.	1966.	1967.	1968.	1969.	1970.	1971.	1972.	1973.	1974.	1975.	1976.	1977.	1978.	1979.	1980.	1981.	1982.	1983.	1984.	1985.	1986.	1987.	1988.	1989.	1990.	1991.	1992.	1993.	1994.	1995.	1996.	1997.	1998.	1999.	2000.	2001.	2002.	2003.	2004.	2005.	2006.	2007.	2008.	2009.	2010.	2011.	2012.	2013.	2014.	2015.	2016.	2017.	2018.	2019.	2020.	2021.	2022.	2023.	2024.	2025.	2026.	2027.	2028.	2029.	2030.	2031.	2032.	2033.	2034.	2035.	2036.	2037.	2038.	2039.	2040.	2041.	2042.	2043.	2044.	2045.	2046.	2047.	2048.	2049.	2050.	2051.	2052.	2053.	2054.	2055.	2056.	2057.	2058.	2059.	2060.	2061.	2062.	2063.	2064.	2065.	2066.	2067.	2068.	2069.	2070.	2071.	2072.	2073.	2074.	2075.	2076.	2077.	2078.	2079.	2080.	2081.	2082.	2083.	2084.	2085.	2086.	2087.	2088.	2089.	2090.	2091.	2092.	2093.	2094.	2095.	2096.	2097.	2098.	2099.	2100.	2101.	2102.	2103.	2104.	2105.	2106.	2107.	2108.	2109.	2110.	2111.	2112.	2113.	2114.	2115.	2116.	2117.	2118.	2119.	2120.	2121.	2122.	2123.	2124.	2125.	2126.	2127.	2128.	2129.	2130.	2131.	2132.	2133.	2134.	2135.	2136.	2137.	2138.	2139.	2140.	2141.	2142.	2143.	2144.	2145.	2146.	2147.	2148.	2149.	2150.	2151.	2152.	2153.	2154.	2155.	2156.	2157.	2158.	2159.	2160.	2161.	2162.	2163.	2164.	2165.	2166.	2167.	2168.	2169.	2170.	2171.	2172.	2173.	2174.	2175.	2176.	2177.	2178.	2179.	2180.	2181.	2182.	2183.	2184.	2185.	2186.	2187.	2188.	2189.	2190.	2191.	2192.	2193.	2194.	2195.	2196.	2197.	2198.	2199.	2200.	2201.	2202.	2203.	2204.	2205.	2206.	2207.	2208.	2209.	2210.	2211.	2212.	2213.	2214.	2215.	2216.	2217.	2218.	2219.	2220.	2221.	2222.	2223.	2224.	2225.	2226.	2227.	2228.	2229.	2230.	2231.	2232.	2233.	2234.	2235.	2236.	2237.	2238.	2239.	2240.	2241.	2242.	2243.	2244.	2245.	2246.	2247.	2248.	2249.	2250.	2251.	2252.	2253.	2254.	2255.	2256.	2257.	2258.	2259.	2260.	2261.	2262.	2263.	2264.	2265.	2266.	2267.	2268.	2269.	2270.	2271.	2272.	2273.	2274.	2275.	2276.	2277.	2278.	2279.	2280.	2281.	2282.	2283.	2284.	2285.	2286.	2287.	2288.	2289.	2290.	2291.	2292.	2293.	2294.	2295.	2296.	2297.	2298.	2299.	2300.	2301.	2302.	2303.	2304.	2305.	2306.	2307.	2308.	2309.	2310.	2311.	2312.	2313.	2314.	2315.	2316.	2317.	2318.	2319.	2320.	2321.	2322.	2323.	2324.	2325.	2326.	2327.	2328.	2329.	2330.	2331.	2332.	2333.	2334.	2335.	2336.	2337.	2338.	2339.	2340.	2341.	2342.	2343.	2344.	2345.	2346.	2347.	2348.	2349.	2350.	2351.	2352.	2353.	2354.	2355.	2356.	2357.	2358.	2359.	2360.	2361.	2362.	2363.	2364.	2365.	2366.	2367.	2368.	2369.	2370.	2371.	2372.	2373.	2374.	2375.	2376.	2377.	2378.	2379.	2380.	2381.	2382.	2383.	2384.	2385.	2386.	2387.	2388.	2389.	2390.	2391.	2392.	2393.	2394.	2395.	2396.	2397.	2398.	2399.	2400.	2401.	2402.	2403.	2404.	2405.	2406.	2407.	2408.	2409.	2410.	2411.	2412.	2413.	2414.	2415.	2416.	2417.	2418.	2419.	2420.	2421.	2422.	2423.	2424.	2425.	2426.	2427.	2428.	2429.	2430.	2431.	2432.	2433.	2434.	2435.	2436.	2437.	2438.	2439.	2440.	2441.	2442.	2443.	2444.	2445.	2446.	2447.	2448.	2449.	2450.	2451.	2452.	2453.	2454.	2455.	2456.	2457.	2458.	2459.	2460.	2461.	2462.	2463.	2464.	2465.	2466.	2467.	2468.	2469.	2470.	2471.	2472.	2473.	2474.	2475.	2476.	2477.	2478.	2479.	2480.	2481.	2482.	2483.	2484.	2485.	2486.	2487.	2488.	2489.	2490.	2491.	2492.	2493.	2494.	2495.	2496.	2497.	2498.	2499.	2500.	2501.	2502.	2503.	2504.	2505.	2506.	2507.	2508.	2509.	2510.	2511.	2512.	2513.	2514.	2515.	2516.	2517.	2518.	2519.	2520.	2521.	2522.	2523.	2524.	2525.	2526.	2527.	2528.	2529.	2530.	2531.	2532.	2533.	2534.	2535.	2536.	2537.	2538.	2539.	2540.	2541.	2542.	2543.	2544.	2545.	2546.	2547.	2548.	2549.	2550.	2551.	2552.	2553.	2554.	2555.	2556.	2557.	2558.	2559.	2560.	2561.	2562.	2563.	2564.	2565.	2566.	2567.	2568.	2569.	2570.	2571.	2572.	2573.	2574.	2575.	2576.	2577.	2578.	2579.	2580.	2581.	2582.	2583.	2584.	2585.	2586.	2587.	2588.	2589.	2590.	2591.	2592.	2593.	2594.	2595.	2596.	2597.	2598.	2599.	2600.	2601.	2602.	2603.	2604.	2605.	2606.	2607.	2608.	2609.	2610.	2611.	2612.	2613.	2614.	2615.	2616.	2617.	2618.	2619.	2620.	2621.	2622.	2623.	2624.	2625.	2626.	2627.	2628.	2629.	2630.	2631.	2632.	2633.	2634.	2635.	2636.	2637.	2638.	2639.	2640.	2641.	2642.	2643.	2644.	2645.	2646.	2647.	2648.	2649.	2650.	2651.	2652.	2653.	2654.	2655.	2656.	2657.	2658.	2659.	2660.	2661.	2662.	2663.	2664.	2665.	2666.	2667.	2668.	2669.	2670.	2671.	2672.	2673.	2674.	2675.	2676.	2677.	2678.	2679.	2680.	2681.	2682.	2683.	2684.	2685.	2686.	2687.	2688.	2689.	2690.	2691.	2692.	2693.	2694.	2695.	2696.	2697.	2698.	2699.	2700.	2701.	2702.	2703.	2704.	2705.	2706.	2707.	2708.	2709.	2710.	2711.	2712.	2713.	2714.	2715.	2716.	2717.	2718.	2719.	2720.	2721.	2722.	2723.	2724.	2725.	2726.	2727.	2728.	2729.	2730.	2731.	2732.	2733.	2734.	2735.	2736.	2737.	2738.	2739.	2740.	2741.	2742.	2743.	2744.	2745.	2746.	2747.	2748.	2749.	2750.	2751.	2752.	2753.	2754.	2755.	2756.	2757.	2758.	2759.	2760.	2761.	2762.	2763.	2764.	2765.	2766.	2767.	2768.	2769.	2770.	2771.	2772.	2773.	2774.	2775.	2776.	2777.	2778.	2779.	2780.	2781.	2782.	2783.	2784.	2785.	2786.	2787.	2788.	2789.	2790.	2791.	2792.	2793.	2794.	2795.	2796.	2797.	2798.	2799.	2800.	2801.	2802.	2803.	2804.	2805.	2806.	2807.	2808.	2809.	2810.	2811.	2812.	2813.	2814.	2815.	2816.	2817.	2818.	2819.	2820.	2821.	2822.	2823.	2824.	2825.	2826.	2827.	2828.	2829.	2830.	2831.	2832.	2833.	2834.	2835.	2836.	2837.	2838.	2839.	2840.	2841.	2842.	2843.	2844.	2845.	2846.	2847.	2848.	2849.	2850.	2851.	2852.	2853.	2854.	2855.	2856.	2857.	2858.	2859.	2860.	2861.	2862.	2863.	2864.	2865.	2866.	2867.	2868.	2869.	2870.	2871.	2872.	2873.	2874.	2875.	2876.	2877.	2878.	2879.	2880.	2881.	2882.	2883.	2884.	2885.	2886.	2887.	2888.	2889.	2890.	2891.	2892.	2893.	2894.	2895.	2896.	2897.	2898.	2899.	2900.	2901.	2902.	2903.	2904.	2905.	2906.	2907.	2908.	2909.	2910.	2911.	2912.	2913.	2914.	2915.	2916.	2917.	2918.	2919.	2920.	2921.	2922.	2923.	2924.	2925.	2926.	2927.	2928.	2929.	2930.	2931.	2932.	2933.	2934.	2935.	2936.	2937.	2938.	2939.	2940.	2941.	2942.	2943.	2944.	2945.	2946.	2947.	2948.	2949.	2950.	2951.	2952.	2953.	2954.	2955.	2956.	2957.	2958.	2959.	2960.	2961.	2962.	2963.	2964.	2965.	2966.	2967.	2968.	2969.	2970.	2971.	2972.	2973.	2974.	2975.	2976.	2977.	2978.	2979.	2980.	2981.	2982.	2983.	2984.	2985.	2986.	2987.	2988.	2989.	2990.	2991.	2992.	2993.	2994.	2995.	2996.	2997.	2998.	2999.	3000.
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### Debenture Stocks.

A. Leeds 1st and 2nd Charge A	4	91	95
B. Do. 3rd Charge A	4	91	95
C. Do. 4th Charge A	4	91	95
D. Do. 5th Charge A	4	91	95
E. Do. 6th Charge A	4	91	95
F. Do. 7th Charge A	4	91	95
G. Do. 8th Charge A	4	91	95
H. Do. 9th Charge A	4	91	95
I. Do. 10th Charge A	4	91	95
J. Do. 11th Charge A	4	91	95
K. Do. 12th Charge A	4	91	95
L. Do. 13th Charge A	4	91	95
M. Do. 14th Charge A	4	91	95
N. Do. 15th Charge A	4	91	95
O. Do. 16th Charge A	4	91	95
P. Do. 17th Charge A	4	91	95
Q. Do. 18th Charge A	4	91	95
R. Do. 19th Charge A	4	91	95
S. Do. 20th Charge A	4	91	95
T. Do. 21st Charge A	4	91	95
U. Do. 22nd Charge A	4	91	95
V. Do. 23rd Charge A	4	91	95
W. Do. 24th Charge A	4	91	95
X. Do. 25th Charge A	4	91	95
Y. Do. 26th Charge A	4	91	95
Z. Do. 27th Charge A	4	91	95
AA. Do. 28th Charge A	4	91	95
AB. Do. 29th Charge A	4	91	95
AC. Do. 30th Charge A	4	91	95
AD. Do. 31st Charge A	4	91	95
AE. Do. 32nd Charge A	4	91	95
AF. Do. 33rd Charge A	4	91	95
AG. Do. 34th Charge A	4	91	95
AH. Do. 35th Charge A	4	91	95
AI. Do. 36th Charge A	4	91	95
AJ. Do. 37th Charge A	4	91	95
AK. Do. 38th Charge A	4	91	95
AL. Do. 39th Charge A	4	91	95
AM. Do. 40th Charge A	4	91	95
AN. Do. 41st Charge A	4	91	95
AO. Do. 42nd Charge A	4	91	95
AP. Do. 43rd Charge A	4	91	95
AQ. Do. 44th Charge A	4	91	95
AR. Do. 45th Charge A	4	91	95
AS. Do. 46th Charge A	4	91	95
AT. Do. 47th Charge A	4	91	95
AU. Do. 48th Charge A	4	91	95
AV. Do. 49th Charge A	4	91	95
AW. Do. 50th Charge A	4	91	95
AX. Do. 51st Charge A	4	91	95
AY. Do. 52nd Charge A	4	91	95
AZ. Do. 53rd Charge A	4	91	95
BA. Do. 54th Charge A	4	91	95
BB. Do. 55th Charge A	4	91	95
BC. Do. 56th Charge A	4	91	95
BD. Do. 57th Charge A	4	91	95
BE. Do. 58th Charge A	4	91	95
BF. Do. 59th Charge A	4	91	95
BG. Do. 60th Charge A	4	91	95
BH. Do. 61st Charge A	4	91	95
BI. Do. 62nd Charge A	4	91	95
BJ. Do. 63rd Charge A	4	91	95
BK. Do. 64th Charge A	4	91	95
BL. Do. 65th Charge A	4	91	95
BM. Do. 66th Charge A	4	91	95
BN. Do. 67th Charge A	4	91	95
BO. Do. 68th Charge A	4	91	95
BP. Do. 69th Charge A	4	91	95
BQ. Do. 70th Charge A	4	91	95
BR. Do. 71st Charge A	4	91	95
BS. Do. 72nd Charge A	4	91	95
BT. Do. 73rd Charge A	4	91	95
BU. Do. 74th Charge A	4	91	95
BV. Do. 75th Charge A	4	91	95
BW. Do. 76th Charge A	4	91	95
BX. Do. 77th Charge A	4	91	95
BY. Do. 78th Charge A	4	91	95
BZ. Do. 79th Charge A	4	91	95
CA. Do. 80th Charge A	4	91	95
CB. Do. 81st Charge A	4	91	95
CC. Do. 82nd Charge A	4	91	95
CD. Do. 83rd Charge A	4	91	95
CE. Do. 84th Charge A	4	91	95
CF. Do. 85th Charge A	4	91	95
CG. Do. 86th Charge A	4	91	95
CH. Do. 87th Charge A	4	91	95
CI. Do. 88th Charge A	4	91	95
CJ. Do. 89th Charge A	4	91	95
CK. Do. 90th Charge A	4	91	95
CL. Do. 91st Charge A	4	91	95
CM. Do. 92nd Charge A	4	91	95
CN. Do. 93rd Charge A	4	91	95
CO. Do. 94th Charge A	4	91	95
CP. Do. 95th Charge A	4	91	95
CQ. Do. 96th Charge A	4	91	95
CR. Do. 97th Charge A	4	91	95
CS. Do. 98th Charge A	4	91	95
CT. Do. 99th Charge A	4	91	95
CU. Do. 100th Charge A	4	91	95
CV. Do. 101st Charge A	4	91	95
CW. Do. 102nd Charge A	4	91	95
CX. Do. 103rd Charge A	4	91	95
CY. Do. 104th Charge A	4	91	95
CZ. Do. 105th Charge A	4	91	95
DA. Do. 106th Charge A	4	91	95
DB. Do. 107th Charge A	4	91	95
DC. Do. 108th Charge A	4	91	95
DD. Do. 109th Charge A	4	91	95
DE. Do. 110th Charge A	4	91	95
DF. Do. 111th Charge A	4	91	95
DG. Do. 112th Charge A	4	91	95
DH. Do. 113th Charge A	4	91	95
DI. Do. 114th Charge A	4	91	95
DJ. Do. 115th Charge A	4	91	95
DK. Do. 116th Charge A	4	91	95
DL. Do. 117th Charge A	4	91	95
DM. Do. 118th Charge A	4	91	95
DN. Do. 119th Charge A	4	91	95
DO. Do. 120th Charge A	4	91	95
DP. Do. 121st Charge A	4	91	95
DQ. Do. 122nd Charge A	4	91	95
DR. Do. 123rd Charge A	4	91	95
DS. Do. 124th Charge A	4	91	95
DT. Do. 125th Charge A	4	91	95
DU. Do. 126th Charge A	4	91	95
DV. Do. 127th Charge A	4	91	95
DW. Do. 128th Charge A	4	91	95
DX. Do. 129th Charge A	4	91	95
DY. Do. 130th Charge A	4	91	95
DZ. Do. 131st Charge A	4	91	95
EA. Do. 132nd Charge A	4	91	95
EB. Do. 133rd Charge A	4	91	95
EC. Do. 134th Charge A	4	91	95
ED. Do. 135th Charge A	4	91	95
EE. Do. 136th Charge A	4	91	95
EF. Do. 137th Charge A	4	91	95
EG. Do. 138th Charge A	4	91	95
EH. Do. 139th Charge A	4	91	95
EI. Do. 140th Charge A	4	91	95
EJ. Do. 141st Charge A	4	91	95
EK. Do. 142nd Charge A	4	91	95
EL. Do. 143rd Charge A	4	91	95
EM. Do. 144th Charge A	4	91	95
EN. Do. 145th Charge A	4	91	95
EO. Do. 146th Charge A	4	91	95
EP. Do. 147th Charge A	4	91	95
EQ. Do. 148th Charge A	4	91	95
ER. Do. 149th Charge A	4	91	95
ES. Do. 150th Charge A	4	91	95
ET. Do. 151st Charge A	4	91	95
EU. Do. 152nd Charge A	4	91	95
EV. Do. 153rd Charge A	4	91	95
EW. Do. 154th Charge A	4	91	95
EX. Do. 155th Charge A	4	91	95
EY. Do. 156th Charge A	4	91	95
EZ. Do. 157th Charge A	4	91	95
FA. Do. 158th Charge A	4	91	95
FB. Do. 159th Charge A	4	91	95
FC. Do. 160th Charge A	4	91	95
FD. Do. 161st Charge A	4	91	95
FE. Do. 162nd Charge A	4	91	95
FF. Do. 163rd Charge A	4	91	95
FG. Do. 164th Charge A	4	91	95
FH. Do. 165th Charge A	4	91	95
FI. Do. 166th Charge A	4	91	95
FJ. Do. 167th Charge A	4	91	95
FK. Do. 168th Charge A	4	91	95
FL. Do. 169th Charge A	4	91	95
FM. Do. 170th Charge A	4	91	95
FN. Do. 171st Charge A	4	91	95
FO. Do. 172nd Charge A	4	91	95
FP. Do. 173rd Charge A	4	91	95
FQ. Do. 174th Charge A	4	91	95
FR. Do. 175th Charge A	4	91	95
FS. Do. 176th Charge A	4	91	95
FT. Do. 177th Charge A	4	91	95
FU. Do. 178th Charge A	4	91	95
FV. Do. 179th Charge A	4	91	95
FW. Do. 180th Charge A	4	91	95
FX. Do. 181st Charge A	4	91	95
FY. Do. 182nd Charge A	4	91	95
FZ. Do. 183rd Charge A	4	91	95
GA. Do. 184th Charge A	4	91	95
GB. Do. 185th Charge A	4	91	95
GC. Do. 186th Charge A	4	91	95
GD. Do. 187th Charge A	4	91	95
GE. Do. 188th Charge A	4	91	95
GF. Do. 189th Charge A	4	91	95
GG. Do. 190th Charge A	4	91	95
GH. Do. 191st Charge A	4	91	95
GI. Do. 192nd Charge A	4	91	95
GJ. Do. 193rd Charge A	4	91	95
GK. Do. 194th Charge A	4	91	95
GL. Do. 195th Charge A	4	91	95
GM. Do. 196th Charge A	4	91	95
GN. Do. 197th Charge A	4	91	95
GO. Do. 198th Charge A	4	91	95
GP. Do. 199th Charge A	4	91	95
GQ. Do. 200th Charge A	4	91	95
GR. Do. 201st Charge A	4	91	95
GS. Do. 202nd Charge A	4	91	95
GT. Do. 203rd Charge A	4	91	95
GU. Do. 204th Charge A	4	91	95
GV. Do. 205th Charge A	4	91	95
GW. Do. 206th Charge A	4	91	95
GX. Do. 207th Charge A	4	91	95
GY. Do. 208th Charge A	4	91	95
GZ. Do. 209th Charge A	4	91	95
HA. Do. 210th Charge A	4	91	95
HB. Do. 211th Charge A	4	91	95
HC. Do. 212th Charge A	4	91	95
HD. Do. 213th Charge A	4	91	95
HE. Do. 214th Charge A	4	91	95
HF. Do. 215th Charge A	4	91	95
HG. Do. 216th Charge A	4	91	95
HH. Do. 217th Charge A	4	91	95
HI. Do. 218th Charge A	4	91	95
HJ. Do. 219th Charge A	4	91	95
HK. Do. 220th Charge A	4	91	95
HL. Do. 221st Charge A	4	91	95
HM. Do. 222nd Charge A	4	91	95
HN. Do. 223rd Charge A	4	91	95
HO. Do. 224th Charge A	4	91	95
HP. Do. 225th Charge A	4	91	95
HQ. Do. 226th Charge A	4	91	95
HR. Do. 227th Charge A	4	91	95
HS. Do. 228th Charge A	4	91	95
HT. Do. 229th Charge A	4	91	95
HU. Do. 230th Charge A	4	91	95
HV. Do. 231st Charge A	4	91	95
HW. Do. 232nd Charge A	4	91	95
HX. Do. 233rd Charge A	4	91	95
HY. Do. 234th Charge A	4	91	95
HZ. Do. 235th Charge A	4	91	95
IA. Do. 236th Charge A	4	91	95
IB. Do. 237th Charge A	4	91	95
IC. Do. 238th Charge A	4	91	95
ID. Do. 239th Charge A	4	91	95
IE. Do. 240th Charge A	4	91	95
IF. Do. 241st Charge A	4	91	95
IG. Do. 242nd Charge A	4	91	95
IH. Do. 243rd Charge A	4	91	95
II. Do. 244th Charge A	4	91	95
IJ. Do. 245th Charge A	4	91	95
IK. Do. 246th Charge A	4	91	95
IL. Do. 247th Charge A	4	91	95
IM. Do. 248th Charge A	4	91	95
IN. Do. 249th Charge A	4	91	95
IO. Do. 250th Charge A	4	91	95
IP. Do. 251st Charge A	4	91	95
IQ. Do. 252nd Charge A	4	91	95
IR. Do. 253rd Charge A	4	91	95
IS. Do. 254th Charge A	4	91	95
IT. Do. 255th Charge A	4	91	95
IU. Do. 256th Charge A	4	91	95
IV. Do. 257th Charge A	4	91	95
IW. Do. 258th Charge A	4	91	95
IX. Do. 259th Charge A	4	91	95
IY. Do. 260th Charge A	4	91	95
IZ. Do. 261st Charge A	4	91	95
JA. Do. 262nd Charge A	4	91	95
JB. Do. 263rd Charge A	4	91	95
JC. Do. 264th Charge A	4	91	95
JD. Do. 265th Charge A	4	91	95
JE. Do. 266th Charge A	4	91	95
JF. Do. 267th Charge A	4	91	95
JG. Do. 268th Charge A	4	91	95
JH. Do. 269th Charge A	4	91	95
JI. Do. 270th Charge A	4	91	95
JJ. Do. 271st Charge A	4	91	95
JK. Do. 272nd Charge A	4	91	95
JL. Do. 273rd Charge A	4	91	95
JM. Do. 274th Charge A	4	91	95
JN. Do. 275th Charge A	4	91	95
JO. Do. 276th Charge A	4	91	95
JP. Do. 277th Charge A	4	91	95
JQ. Do. 278th Charge A	4	91	95
JR. Do. 279th Charge A	4	91	95
JS. Do. 280th Charge A	4	91	95
JT. Do. 281st Charge A	4	91	95
JU. Do. 282nd Charge A	4	91	95
JV. Do. 283rd Charge A	4	91	95
JW. Do. 284th Charge A	4	91	95
JX. Do. 285th Charge A	4	91	95
JY. Do. 286th Charge A	4	91	95
JZ. Do. 287th Charge A	4	91	95
KA. Do. 288th Charge A	4	91	95
KB. Do. 289th Charge A	4	91	95
KC. Do. 290th Charge A	4	91	95
KD. Do. 291st Charge A	4	91	95
KE. Do. 292nd Charge A	4	91	95
KF. Do. 293rd Charge A	4	91	95
KG. Do. 294th Charge A	4	91	95
KH. Do. 295th Charge A	4	91	95
KI. Do. 296th Charge A	4	91	95
KJ. Do. 297th Charge A	4	91	95
KK. Do. 298th Charge A	4	91	95
KL. Do. 299th Charge A	4	91	95
KM. Do. 300th Charge A	4	91	95
KN. Do. 301st Charge A	4	91	95
KO. Do. 302nd Charge A	4	91	95
KP. Do. 303rd Charge A	4	91	95
KQ. Do. 304th Charge A	4	91	95
KR. Do. 305th Charge A	4	91	95
KS. Do. 306th Charge A	4	91	95
KT. Do. 307th Charge A	4	91	95
KU. Do. 308th Charge A	4	91	95
KV. Do. 309th Charge A	4	91	95
KW. Do. 310th Charge A	4	91	95
KX. Do. 311th Charge A	4	91	95
KY. Do. 312th Charge A	4	91	95
KZ. Do. 313th Charge A	4	91	95
LA. Do. 314th Charge A	4	91	

### Debenture Stocks

[illegible]

### Preference Stocks.

1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000
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### Preference Stocks—

(continued).



Italian, 3%, July Bonds.....	60	64	60	63	64	67
Do. 4%, July Bonds.....	61	65	61	64	65	68
Imperial, Czowitz-Jassy Guar. 5%..	68	72	72	72	72	75
Manisa, 5%, Pref.....	35	10	1	1	1	1
Do. End do.....	15	22 1/2	15	15	15	16 1/2
Mexican Southern, Ord. Stock.....	100	100	100	100	100	100
Paraguay Central, Ord. & P. S. S. S.	100	100	100	100	100	100
Paris, Lyons & Med. Oils, Red.....	100	100	100	100	100	100
11,000,000, 1st Mort. 4%, S. F. Gold	100	100	100	100	100	100
Pres. Atms. & Phipps 4%, 1st Mt. S. D.	100	100	100	100	100	100
Royal Canadian, Ord. Shares.....	100	100	100	100	100	100
Salvador, Ord. Shares.....	100	100	100	100	100	100
San Paulo (Brazilian), Ord. Sks.....	241	245	240	244	249	254
Do. 5%, Non-Cum. Pref. Sks.....	100	111	108	111	112	114
South Italian, 3%, Oblig. Red.....	123 1/2	127	123 1/2	127	127 1/2	131
S. Manchurian, 5%, Sts. Dns. Red.....	98	99	98	100	101	101
Twentieth Ctl. 4% Corp. Dtl. Stock.....	90	92	90	92	92	96
Tallal, Ord. Shares.....	60	64	60	63	64	67
Tunis-African, 5%, 1st Mt. Dns.....	60	64	60	63	64	67
United States & Canada, 5%, Ord. Sks.....	100	100	100	100	100	100
United of the Havana, 5%, Ln. Red.....	90	101	99	100	101	102
Uruguay Northern, 7%, Pref. Sks.....	90	91	90	91	91	91
Vera Cruz (Mexico), 5%, Cum. Pref.....	90	91	90	91	91	91
Villa Maria & Iquino, Guar. Sks.....	90	91	90	91	91	91
West. of S. Ayres, 5%, Mt. Dns. Red.....	103	105	103	105	105	108
Windsor & Hudson, 3%, Bonds.....	124	124 1/2	124	124 1/2	124 1/2	124 1/2

# OFFICIAL TRAFFIC RETURNS.

Barry.			
Week ending September 21	1913.	1912.	
Total for week	210,000	210,000	
Aggregate for 38 weeks	8,100,000	8,100,000	
Miles open	654	654	
Inc. this week, 210,000			Inc. 38 weeks, 310,000

Caledonian.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	59,400	60,900	
Total for week	1105,600	1105,300	
Aggregate for 38 weeks	5,764,700	5,452,400	
Miles open	1114	1114	
Inc. this week, 24,100			Inc. 38 weeks, 312,300

Cambrian.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	500	287	
Inc. this week, £180			Inc. 38 weeks, 212, 15

Central London.			
Week ending September 21	1913.	1912.	
Total for week	24,100	24,100	
Aggregate for 38 weeks	1,182,891	1,175,000	
Miles open	614	614	
Dec. this week, £300			Inc. 38 weeks, 2, 44

City and South London.			
Week ending September 20	1913.	1912.	
Total for week	22,637	22,739	
Aggregate for 38 weeks	1,117,904	1,115,745	
Miles open	74	74	
Inc. this week, £151			Inc. 38 weeks, 22,991

Dublin and South Eastern.			
Week ending September 19	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 24,100			Inc. 38 weeks, 312,300

Furness.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 24,100			Inc. 38 weeks, 312,300

Glasgow and South Western.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 24,100			Inc. 38 weeks, 312,300

Great Central.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 24,100			Inc. 38 weeks, 312,300

Great Eastern.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Dec. this week, 2800			Inc. 38 weeks, 273,500

Great Northern.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Great Northern (Ireland).			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Great North of Scotland.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Great Southern and Western.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Great Western.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Highland.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Hull and Barnsley.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Lancashire and Yorkshire.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

London, Brighton and South Coast.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

London Electric.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

London and North Western.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

London and South Western.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Metropolitan.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Metropolitan District.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Midland.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Midland Great Western of Ireland.			
Week ending September 19	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

North British.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

North Eastern.			
Week ending September 20	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

North London.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

North Staffordshire.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Phillyne.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

South Eastern and Chatham.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

Taff Vale.			
Week ending September 21	1913.	1912.	
Passengers, etc.	24,100	24,100	
Goods, etc.	1,771	2,491	
Total for week	47,596	47,416	
Aggregate for 38 weeks	2,255,719	2,211,700	
Miles open	100	100	
Inc. this week, 2800			Inc. 38 weeks, 273,500

NOTES AND EXPLANATIONS.—The figures for the week ending September 21, 1913, are preliminary and are subject to correction. The figures for the week ending September 21, 1912, are final. The figures for the week ending September 21, 1911, are preliminary and are subject to correction. The figures for the week ending September 21, 1910, are final. The figures for the week



## OFFICIAL TRAFFIC RETURNS.

## BRITISH AND IRISH RAILWAYS, &amp;c.

First Name Last Reported		No.	Address to which
1911	1912	1913	1914
8	1	1	1
91	61	2,703	27
91	24	1,714	49
91	1	1,055	49
91	91	14	15
91	91	14	13
91	44	3,677	7 M
91	44	1,024	48
91	214	1,730	35
91	168	5,571	4 M
91	44	85,721	4
91	44	81,551	4
91	44	1,880	50
91	44	3,101	11
91	91	2,841	38
91	91	111	98,001

## FOREIGN AND COLONIAL.—Continued.

Industry.	Months.		Latest Estimates Report-4.		No. Weeks.	Aggregate to Date.		
	1913.	1912.	1913.	1912.		1912-13.	1911-12.	
Aluminum	101	100	Sept. 13	20,350	-750	11	244,540	-37,770
Asphalt	118	117	Aug. 13	60,250	+1,820	11	571,774	-1,520
Bricks	43	42	Aug. 13	1,474,233	-1,47,233	2M	1,321,211	-1,321,211
Cast-iron Pipe	165	165	Aug. 13	-	-5,505	2M	2,034,013	+217
Cement	210	210	May. 13	44,448	+5,438	2M	30,958	+2,777
Copper	173	173	Aug. 13	514,031	-1,180	11	1,201,611	+1,277
Electricity	184	184	Aug. 13	-	-2,070	5M	50,105	-2,070
Flour	113	111	Aug. 13	24,000	-2,418	11	23,650	-2,418
Gas	675	672	Aug. 13	-	+212	12	233,094	+1,750
Grain	74	74	Aug. 13	77	-	11	6,857	-
Iron	73	73	Aug. 13	2,400	-74	1M	4,245	-74
Lumber	147	147	Aug. 13	2,000	-24	12	68,416	-24
Machinery	112	112	Aug. 13	77,900	+17,800	81	2,908,300	+245,500
Meat	112	112	Aug. 13	17,000	+3,162	7M	97,850	+3,162

## FOREIGN AND COLONIAL RAILWAYS.

## UNITED STATES RAILWAYS

Alab. G. Stb.	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010	3011	3012	3013	3014	3015	3016	3017	3018	3019	3020	3021	3022	3023	3024	3025	3026	3027	3028	3029	3030	3031	3032	3033	3034	3035	3036	3037	3038	3039	3040	3041	3042	3043	3044	3045	3046	3047	3048	3049	3050	3051	3052	3053	3054	3055	3056	3057	3058	3059	3060	3061	3062	3063	3064	3065	3066	3067	3068	3069	3070	3071	3072	3073	3074	3075	3076	3077	3078	3079	3080	3081	3082	3083	3084	3085	3086	3087	3088	3089	3090	3091	3092	3093	3094	3095	3096	3097	3098	3099	3100	3101	3102	3103	3104	3105	3106	3107	3108	3109	3110	3111	3112	3113	3114	3115	3116	3117	3118	3119	3120	3121	3122	3123	3124	3125	3126	3127	3128	3129	3130	3131	3132	3133	3134	3135	3136	3137	3138	3139	3140	3141	3142	3143	3144	3145	3146	3147	3148	3149	3150	3151	3152	3153	3154	3155	3156	3157	3158	3159	3160	3161	3162	3163	3164	3165	3166	3167	3168	3169	3170	3171	3172	3173	3174	3175	3176	3177	3178	3179	3180	3181	3182	3183	3184	3185	3186	3187	3188	3189	3190	3191	3192	3193	3194	3195	3196	3197	3198	3199	3200	3201	3202	3203	3204	3205	3206	3207	3208	3209	3210	3211	3212	3213	3214	3215	3216	3217	3218	3219	3220	3221	3222	3223	3224	3225	3226	3227	3228	3229	3230	3231	3232	3233	3234	3235	3236	3237	3238	3239	3240	3241	3242	3243	3244	3245	3246	3247	3248	3249	3250	3251	3252	3253	3254	3255	3256	3257	3258	3259	3260	3261	3262	3263	
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WORKING STATEMENTS AS LAST REPORTED.

[illegible]

<sup>d</sup> Slangage reported in dollars, e in dollars, e in rupees, d in murens, f in dollars, e in pesos, f in Bolivian currency & in Mexican dollars.

\*\*Including Cordoba and Rosario and Cordoba Central B. Ay. Extension



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RAYWAY TIMES, 12  
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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, OCTOBER 4, 1913.

No. 14.

## PRINCIPAL CONTENTS.

## THE CANADIAN PACIFIC RAILWAY.

At the annual meeting of the Canadian Pacific Railway Company, held on Wednesday, the President, Mr. Thomas D. Sturges, gave a most interesting and valuable account of the position, as might well have been expected. Indeed, as he pointed out, not only did the gross earnings of the year ended June 30 last reach the high-water mark of nearly \$140,000,000, but during the last ten years that total has actually risen from \$43,000,000. There has been some reaction in traffic since the close of the financial year, but evidently the President holds the opinion that over the next ten years there will be a proportionate increase in the gross income of the company. At the same time, it is desirable to point out that the company's development is absorbing a truly stupendous amount of capital, and it is in this direction that Canadian enterprise generally is encountering some difficulty, for the capacity of the European investor has its limitations, and all Canadian enterprises have not been by any means so successful as the Canadian Pacific. Indeed, the President took occasion to remind the shareholders that the company's capital of all classes has increased by \$28,500,000 since 1903, a sum equal to considerably over £50,000,000 sterling, and this total does not appear to include the large premiums in recent years secured upon the issues of additional share capital. The last annual report points out that the balance sheet item of railway and equipment "has advanced during the year by the sum of about 60½ million dollars," or, say, nearly £14,000,000 sterling, and it will appear to the impartial observer that one of the first conditions of continued financial stability, even in the case of the Canadian Pacific, must be a large reduction in its capital requirements. Perhaps the most interesting feature of the President's address was his reference to the company's land policy. Allusion has been made in these columns on various occasions in the last few years, to the enormous assets possessed by this company in the shape of its land. It also has other special assets of no mean order, including a magnificent fleet of steamers. The directors hope, before the next annual report is published, to devise some plan "for reconstructing the special income account and showing the extraneous assets in more definite and tangible form." Of course, by far the greatest asset possessed by the Canadian Pacific Railway which is not fully disclosed in its accounts is its land unsold, and also to a large extent the proceeds of lands already sold, which have not been distributed. The President, at Wednesday's meeting, put forward an official estimate of the value of land unsold amounting to \$110,000,000. The value of the land sold, but not yet distributed, is \$100,000,000. The total value of the land owned by the company is \$210,000,000. Of this last-mentioned sum, about \$180,000,000 has been paid for by the company. The balance of \$30,000,000 has been received from the sale of the land. The company has a large amount of land unsold, and it is this land which is the greatest asset of the company. The land is sold by way of "betterments" in the form of "land grants" to the Government. The land is sold to the Government at a price of \$100,000,000. The Government then distributes the land in any form; only the income from such lands has been appropriated in the revenue account. For the year 1912, the company received \$10,000,000 from the sale of land.

## THE RAILWAY TIMES.

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All communications for the following issue should be received not later than 4 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

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amounting to £1,000,000 in all was paid out of special income, was £1,000,000 during the year to cover £1,000,000. The 3 per cent. dividend referred to absorbed about 5½ million dollars, so that the position in this respect is a very strong one. The President indicated that this conservative policy of dealing with land sales will be continued, but he hinted at the conclusion of his address that other funds realised "may with propriety be taken into special income account to be dealt with as the directors in their discretion deem best."

### ARGENTINE RAILWAY DIVIDENDS.

On Wednesday the dividends of the two leading Argentine railways were announced, and it is satisfactory to observe that in both cases they are maintained, with liberal balances forward. Seven per cent. has become a regular distribution for the Buenos Ayres Great Southern Railway, and, as a matter of fact, it has been the regular rate for the last fifteen years, whilst for the last thirteen years this annual rate of dividend has been paid in regular instalments of 2½ per cent. in April and 2½ in October. The dividend is all the more satisfactory as considerable new capital charges have had to be provided for, together with growing expenditure. Another excellent feature is that the balance remaining to be carried forward amounts to £473,500, or 10½ per cent. of the capital. This addition of about £473,500 to the surplus carried forward is of itself equal to about 1½ per cent. additional on the ordinary stock for the year. This excellent result has been possible mainly because the gross revenue of the railway, according to the published traffic returns, advanced by about £1,160,000 during the year ended 30th June last. The Buenos Ayres Western has also maintained its dividend of 7 per cent. per annum for the year ended 30th June last, that rate having been paid for the last eleven years, with the sole exception of 1910-11, when the rate was raised to 7½ per cent. The Buenos Ayres Western Company has not been so fortunate as some of its neighbours in the matter of gross traffics. In spite of an addition of about 130 to the mileage opened, its gross increase for the year ended 30th June last was only £1,000,000. It has also incurred considerable charges, therefore, it is not surprising that it has had somewhat to reduce its balance carried forward, which on the present occasion is £125,000, against £147,600 on the 30th June, 1912. In both cases there has been some falling off in receipts during the current financial year, commencing 1st July last, and the Buenos Ayres Great Southern has published a decrease of £260,000 since that date, whilst the Buenos Ayres Western has lost, according to preliminary returns, £100,000. These reductions in receipts, whilst certainly a little disturbing, would have to become very much more serious before, in either case, any reduction in the Ordinary dividend has to be contemplated. The conservative dividend policy in past years will prove very helpful should the year-end results be really bad.

### THE RAILWAY CONCILIATION SCHEME.

While the British railway world is still troubled with local sporadic strikes and threats to strike in defiance of the advice of the leaders of the men's unions, it is satisfactory to find how much pacification work is being done in a quiet way under the Railway Conciliation Scheme. A compendium of this work is given in a blue-book issued this week by the Board of Trade under the title "Statement of settlements regarding questions as to rates of wages, hours of labour, and conditions of service of railway employees that have been effected under the proposed Conciliation Scheme recommended by the Royal Commission on the Conciliation and Arbitration Scheme of 1906." It is issued by the Railway Conference Agreement

of December 11, 1911." The revised Scheme of 1911 provides for the settlement of questions at any of four stages—namely, by agreement between a deputation of the men and the railway company; by agreement between the two sides of a Conciliation Board, without the assistance of a chairman; by agreement between the two sides of a Conciliation Board when reconciled by the chairman; and, lastly, by the decision of the chairman. Attention is called to the fact that whereas at the first stage any question affecting the contractual relations between a company and its employees may be brought forward by the latter, at the subsequent stages the questions that can be dealt with are confined (except when mutually agreed otherwise) to such as relate to rates of wages, hours of labour, or conditions of service other than matters of management or discipline. The return shows that no fewer than 219 settlements have been effected, and in nearly every case they came into force during 1912, though they run for various periods of time. Out of the total, 107 were arrived at by agreement between deputations and the companies, 93 by agreement between the two sides of Conciliation Boards without the assistance of a chairman, and 4 by such agreement with the mediation of the chairman, while in only 15 cases a chairman's decision was required. In the case of most companies the settlements have been extensive in scope and afford considerable information as to the present conditions of service on British railways. The gratifying point brought out by the figures is that in only a very small proportion of the 219 cases—namely, 15—were the differences between the companies and their employees so acute that the parties were not able to reach an agreement. In those particular cases a chairman's decision was required. It will also be noted that in practically half the cases there was no necessity even to bring the questions before the Conciliation Boards; they were simply settled by deputations of the men and representatives of the companies. The results show that so long as no outside influences are permitted to intervene, there is little difficulty in enabling the voice of reason and reasonableness to be heard in such disputes as must inevitably arise. The blue-book is occupied for most of its bulk with statements showing in detail for each company concerned the revisions made in rates of wages, hours of labour, and conditions of service. The revised conditions are fully set out, but, in many cases, not those which have been superseded, so that an inspection of the book does not show throughout what the magnitude of the changes has been. Still the information as to pay, hours, etc., now amicably fixed in such a large number of cases, will be found of great value for reference purposes. Incidentally, such members of the general public as look into the matter will find in the formidable list of concessions which have been made a justification for the recent Railway and Canal Traffic Act, which facilitates the raising of railway rates for the purpose of meeting the added cost of improving the conditions of service under railway companies.

**Light Railways Order.**—The Board of Trade has recently considered a proposed Order made by the Light Railway Commissioners. It authorises the construction of a light railway in the county of Suffolk, to be operated by the Great Eastern Railway, connecting Sudbury and Haverhill with the Southwold Railway.

**Charges for Metropolitan Season Tickets Reduced.**—The Metropolitan Railway Company has issued the following important notices regarding the issue of season tickets, which came into operation on October 1. Ladies' "Limited" season tickets are now issued at half and at three-quarters of the Metropolitan Company's stations in the London area. They are valid at all times except between 9 a.m. and 5 p.m. on week-day mornings. Season tickets over the Metropolitan Railway either may or may not be decided for periods of a fortnight or more, during the absence of a holder on holiday, and the full time of such deposit will be added to the period of the next ticket taken. Season tickets are issued for any day and for any period from one month upwards.



# MONEY AND STOCK MARKETS.

Continuation Days.		Ticket Days.		Pay Day	
Mines .....	Oct. 10	Mines ....	Oct. 13	Oct. 13	13
General .....	" 11	General .....	" 14	" 14	" 14
Mines .....	" 17	Mines .....	" 18	" 18	" 18
General .....	" 28	General .....	" 29	" 29	" 29
Mines .....	" 28	Mines .....	" 29	" 29	" 29
General .....	" 28	General .....	" 29	" 29	" 29

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Same Week Last Year.
Bank's Coin and Bullion	£11,111,111	£11,111,111	£11,111,111
Total Reserve	£11,111,111	£11,111,111	£11,111,111
Proportion of Reserve			
to Liabilities	100 p.c.	100 p.c.	100 p.c.
Notes in circulation	£11,111,111	£11,111,111	£11,111,111
Bank Rate*	5 p.c.	4½ p.c.	10 p.c.
Open Market Discount	4 p.c.	4 p.c.	10 p.c.
Bankers' clearing House	£11,111,111	£11,111,111	£11,111,111
Silver coins per cent (spot)	28 d.	28 d.	28 d.
Consols (advance)	7 ½	7 ½	7 ½
French 3 per cent (face)	87 ½	87 ½	87 ½
Paris 4 per cent (face)	21 ½	21 ½	21 ½
New York 4 per cent (face)	100	100	100
Rio de Janeiro exchange	100	100	100
Valparaiso no-die exche	100	100	100
Calcutta transfers	18 ½	18 ½	18 ½
Hong Kong transfers	28 ½	28 ½	28 ½
Shanghai transfers	28 ½	28 ½	28 ½

The month of October has opened very inauspiciously for holders of stocks and shares, and for those who require to borrow money for the conduct of business. The Bank Return of the 1st instant deserves special attention, coming as it does at the beginning of the critical season in what seems likely to be a critical year. Its figures resolve themselves into close approximations of round millions, and are best presented as such in order that they may be the more readily impressed upon the mind and retained in the memory. Two millions were sent abroad, chiefly to Egypt, one million was taken for internal uses, and the active note circulation expanded by nearly the same amount. Consequently the Reserve is no less than four millions lower, or one million four hundred thousand below the level which obtained at the corresponding date of last year. Government disbursements have released half-a-million, and rather more than this has been borrowed, as may be inferred from the rise of £586,000 in Other Securities; the effect of an increase amounting to £835,000 in Government Securities has also been of relief to the open market, and Other Deposits are, therefore, but two millions down. This, however, brings them to a figure three millions less than they were twelve months ago, and the market rate of discount is fully 1 per cent. higher. The return is made for the first of the month instead of the second, as occurred last year, so that the effect of quarter-day transactions is the more pronounced on this occasion. The ratio of Reserve to the liabilities of the Bank is nevertheless five points down at 53½ per cent. That ratio is still four and a half points above the level of last year, a margin of security due to the very cautious policy pursued by the Court of Directors throughout. Two months ago it was hoped that, thanks to this policy, the markets might

escape the further and further of a... clouded over by the prospect of dearer money, something... exhausted itself, shows disconcerting indications of further activity which are immediately reflected in the great centres of finance to the discomfiture of the stock markets. Prolonged uncertainty of any kind is disastrous to the price list, as everyone knows, and to the doubts attaching to peace in the Near East are now added fears of a monster lock-out in the cotton trade. In the circumstances, it is only to be wondered at that prices on the Stock Exchange have held up as well as they have. The record for the week is not exhilarating.

Last Saturday the House might as well have been closed for all the business that was done. The postponement of the presidential election in Mexico, the Japanese ultimatum to China, and the Balkan news were discussed with some animation. Consols fell ½, Chatham 1-16 preference ½, and South Eastern preference 1. French Rentes fell ½, Hungarian 4 per cent. ½, and Russians were generally lower. *Wages in the coal mines in Scotland* dealings were still very small in volume, and declines again prevailed, United States railways being particularly weak, Canadas and Trunks likewise. The next day similar conditions prevailed, accentuated by diverse rumours of numerous new issues in process of incubation. The falls were, however, in no instance heavy, and did not result from offers of stock on a large scale. There was some apprehension of an immediate advance in the Bank Rate, owing to the heavy withdrawals of gold for the East, but on Wednesday a better tendency set in. The alteration in sentiment was at once visible in the market for Home Rails. There were many fractional advances which sufficed to wipe out the declines of the previous day, and Kentish stocks were specially favoured through hopes gathering about the old scheme for a tunnel under the Channel. The following day the Bank Rate announcement was a discouragement to the confidence of speculators for a rise. Consols again declined, and Home Rails again relapsed. Paris, which had opened firm, became markedly weak. The underwriters of the Canadian Government loan found themselves left with 57 per cent. of it on their hands. There was a general decline in British Government stocks. Colonial stocks also weakened. United States railways offered more resistance to depression, and Canadas rose 2½ on the statement of Sir Thomas Shaughnessy, as cabled, which indicated a policy of separating the company's property in land and shipping.

On Friday it was known that underwriters of the recent loan to the City of Edmonton, Alberta, would be called upon to take half the issue, nevertheless a loan of £400,000 to the City of Vancouver, carrying 4½ per cent., to be issued at 95, was in process of being underwritten, and several other Canadian issues were said to be in course of preparation. Canada, of course, is not the only borrower; it would be easier to enumerate the countries and corporations who have no immediate designs on the loan market than those that have. The Balkan news was no better, and the danger of labour troubles in the North was not considered to be any less serious. Hence the prices quoted for stocks of every kind tended downwards where they showed disposition to move at all. Consols fell 1-16, Home Rails declined 1-16, and the market for the various Government Securities were weak, and financial difficulties were said to have developed in Paris, which affected all the international favourites. Canadas were almost alone in showing any elasticity and they closed ½ below the best, though a full point up on the day. The rise in this stock is in some quarters suspected to be the work of those interested in the further flotation of sundry Canadian loans.



STEEL CARS IN A PENNSYLVANIA COLLISION.


Author(s): Edgar Scott Rutherford, Jr. and Norman  
H. Miller, Editors.

On the morning of the accident, between 7 and 8 a. m., on the Pennsylvania Railroad at Tyrone, Pa., Mr. H. W. Belpap, chief inspector of safety appliances, gives a number of illustrations to show that the substantial construction of the modern steel cars, of which the trains were made up, is without doubt the reason why no passenger was killed. The casualties comprised one engine driver killed, and 120 passengers, two employees, five postal clerks, and two Pullman employees injured.

The trains were westward bound on July 30 last from Philadelphia, No. 15 to Chicago and No. 13 to St. Louis. Train No. 15 consisted of engine, postal car, one baggage car, four coaches, one dining car, and a Pullman parlour car, all the cars being of steel construction. Train No. 13 consisted of engine, postal car, two postal storage cars, two coaches, one Pullman parlour car, one dining car, and one private car. All the cars were of steel construction except the private car, which was of wooden construction. In this car a number of officers of the company were riding after making an annual inspection.

Train No. 15 left Harrisburg at 11.41 a.m., one minute late, and arrived at Tyrone at about 2.34 p.m., nine minutes late. It stood at the station for about five minutes unloading and loading passengers and baggage, and just as it started to leave the station it was struck by train No. 13. This was running at 35 to 40 miles per hour, and the driver was using steam when the train passed under the caution signal. The latter left Harrisburg at 12.29 p.m., four minutes late, and it was scheduled to pass Tyrone at 2.41 p.m., approximately two minutes after the collision occurred. Funk, the driver of the train, was killed.

Automatic block signals of the three-position, upper-quadrant, alternating-current, normal clear type govern the operation of trains over this section of railroad, the signals being mounted directly over the tracks which they govern on signal bridges extending across all four tracks. An inter-



for a crossing, the engine then being only about two car lengths away from signal No. 2276, and immediately he called to the engineman that the signal was red. He then



Locomotive of Train 13 and Rear End of Last Car of  
Train 15

man. The driver did not shut off steam until he pulled the red signal, and he thought the speed of the train was then about 40 miles per hour. After he saw the flagman of train No. 15 he jumped down with the intention of applying the brakes himself, but he saw the engineman move the brake-valve over. The brakes seemed to be slow in taking hold, and the speed had not been materially reduced when the collision occurred. He thought the collision might have



Front End of Dining Car and Rear End of Coach Train 15



Train 15

locking plant is installed at FR tower, and just east of this tower there is a home interlocking signal of the semi-automatic type governing train movements over the crossover switches. Automatic block signal No. 2211 is located about 1,650 feet west of FR tower, and automatic block signal No. 2210 is located approximately 3,500 feet west of signal No. 2211 and 1,150 feet east of Tyronne station.

Assistant Road Foreman of Engines Miller, who was riding on the engine of train No. 13, stated that as the train approached ER tower the home signal just east of the tower was in the clear position and automatic signal No. 2214 just west of the tower was also in the clear position. He was the first to see the signal, and he called "White"; the fireman then looked out and called "White," and when a

been averted had the brakes been applied when he hit the stop signal No. 2219 in the stop position.



able directly from the cab window. He did not put any torpedo in the rails when he went back to protect his train as the rules did not permit the use of torpedoes at station platforms.

The collision resulted in pulling out one of the couplers on the first car in train No. 15; the rear end of the rear car was crushed for 10 or 12 feet, and the other end of this car was jammed into the rear end of the dining car, crushing that car for 6 or 8 feet. The engine of train No. 13 was considerably damaged; the tender body was thrown off from the tender frame and across the track. The first postal car was thrown diagonally across the track, the front end coming to rest on the station platform; one end of this car was crushed for about 15 feet and the roof over about half the car was out of alignment. The other end of this car was slightly damaged, and the front end of the second car was stove in. Some of the other cars in the train suffered slight damage. The shock of the collision was largely absorbed by the crushing of the platforms and vestibules of the cars.

After the accident the officers who had been riding on the rear car of train No. 13 examined and tested the semi-automatic home signal at FR tower and automatic block signals 2211 and 2210. On the following day further inspection and tests were made; the signals were found to be in good working condition. Before train No. 13 left Harrisburg the brake appeared to apply and release properly.

The accident is attributed to the failure of Engineman Funk properly to observe and obey signal indications, and the failure of fireman and assistant road foreman of engines properly to observe signal indications. The report concludes: "This accident again calls attention to the necessity for some form of automatic train stopping device. The signals were of the most modern type, the signal system was very complete, and there seems to be no question but that the signals operated properly. Yet all three of these experienced men on the engine failed to observe a caution signal indication, the engineman failed to obey a danger signal indication, and the collision resulted."

### NORTH EASTERN RAILWAY AND SUBURBAN DEVELOPMENT.

The Lord Mayor of Newcastle last Saturday opened an extension of the Newcastle-Ponteland light railway to serve the Darrass Hall estate. This estate, of over 1,000 acres, has been laid out by the Northern Allotment Society.

In addition to the Lord Mayor, there were present Viscount Ridley, chairman of the Traffic Committee of the N.E.R. Company, Mr. J. M. Robertson, M.P., Parliamentary Secretary to the Board of Trade, and the following representatives of the company:—Mr. Wm. Bell, architect, York; Mr. C. A. Lambert, divisional goods manager; Mr. G. Hope, divisional superintendent, Newcastle; Mr. J. T. Oliver, assistant engineer; Mr. F. C. Buscarlet, district engineer; Mr. C. Bailey, assistant estate agent; Mr. E. F. Wilkinson, district passenger agent, Newcastle; Mr. C. Baister, district locomotive superintendent, Gateshead; Mr. J. T. Naisby, assistant goods manager, Newcastle; and many others.

Mr. J. M. Robertson, M.P., proposing "The North-Eastern Railway Company," said he was convinced that if the business community wanted the railway companies to be public utilities, perhaps the best way to begin was for the business community to be public spirited. They seemed to have an impression that that tendency on both sides in the development of this estate.

Lord Kelvin, who spoke, said he found himself in the unusual position of hearing a railway company approved of. People did not, as a rule, pick out the merits of a railway company for observation so much as its demerits. It had been a duty as well as a pleasure to the railway board and officials to co-operate in this scheme, and he was glad to see people who showed the disposition to develop it on the best possible lines. There would, however, be some difficulties in the next year to come, but the difficulties would be well equipped. A great deal of interest, trouble, and forethought had been spent upon it, and he did not know of any enterprise more likely to be successful than one which started with the goodwill of the people concerned. His lordship then handed to the Lord Mayor, who read a paper, and then responded, a beautiful address, which he had framed on the occasion. At the conclusion of the paper, Darrass Hall railway station.

### STATE RAILWAYS IN BRITISH POSSESSIONS AND FOREIGN COUNTRIES.

*Continued from page 2521.*

In our issue of September 13 we published the introduction to a Return presented by the Board of Trade to Parliament on State Railways in British Possessions and Foreign Countries. As the Return extends to 72 pages space will only permit of a glance at the salient financial points.

#### CANADA.

In Canada the chief State line is the Inter-Colonial Railway, 1,455 miles of which were in operation in 1911. In 1912 the gross receipts were \$10,503,786, and the working expenses \$10,591,036, the net surplus being \$2,750. No amount of capital expenditure has been paid out of revenue.

#### AUSTRALIA.

The Commonwealth of Australia had 16,079 miles of railway under State ownership working on June 30, 1911, and 1,934 miles privately owned. The Government in 1911 took over 145 miles of line from Port Darwin to Pine Creek, which up to the end of that year had cost £1,180,263. The working expenditure for the year was £13,841, and the total receipts £11,805. In the same year 478 miles from Port Augustus to Inlandadatta were taken over, but were leased back to the South Australian Government. The capital cost of this line was £2,240,012. Construction has begun of a railway, 1,083 miles in length, from Kalgoorlie to Port Augustus, at an estimated cost of £3,839,000.

New South Wales in 1854 took over the liabilities of the companies which had started the construction of railways, but met with financial and other difficulties. There are now 3,831 miles open, the capital cost being £53,514,003, gross earnings in 1912 £6,491,473, working expenses £4,100,591. Interest on capital absorbed £1,906,369, and the net profit was £415,513.

Victoria's railways have all been constructed by the Government with the exception of 60 miles. The total expenditure on 3,627 miles up to 1912 was £45,897,163, gross receipts £5,233,979, working expenses £3,323,707, interest charges and expenses £1,513,102, and pensions and gratuities £131,319, leaving a surplus of £265,791. No amount of capital expenditure has been repaid out of railway revenue.

South Australia's railways are all State owned. In 1912 1,461 miles were open, the capital outlay being £13,240,175. The earnings were £2,090,503, and the expenses £1,293,987, leaving a net revenue of £796,576. It does not appear that there has been any redemption of railway debt.

Western Australia has 2,598 miles open at a cost of £13,233,093, the gross earnings in 1912 being £1,884,604, the expenses £1,343,977, and interest charges £439,152, leaving a net profit of £101,474.

Queensland in 1912 had 4,266 miles open, at a cost of £28,208,402. The gross receipts were £3,032,858, working expenses £1,917,266, interest charges £1,069,810, and the surplus £45,752. No capital has been repaid out of revenue.

Tasmania's system extended to 495 miles in 1912, constructed at a cost of £4,253,013. The receipts were £312,783, working expenses £221,172, and interest £150,123, leaving a deficit of £67,510. No capital has been repaid out of revenue.

#### NEW ZEALAND.

There were 2,808 miles owned and operated by the State in 1912, and 29 miles by companies. The State lines had cost £30,506,089, gross receipts being £3,676,509, working expenses £2,465,890, and net receipts £1,210,613. Between 1885 and 1895 the Government acquired a number of lines at a cost of £1,173,272, and in 1908 the Wellington-Manawatu Railway was acquired at a cost of £933,759. No capital charges have been repaid out of revenue.

#### SOUTH AFRICA.

The Union of South Africa Government, at the end of 1911, owned and operated 7,548 miles, and there were 545 miles privately owned and operated. The total cost of the State lines was £77,576,357, gross receipts £12,286,248, working expenses £6,230,685, renewals £1,024,148, interest, etc., £2,621,753, surplus £2,509,662. In addition, up to the same period £452,633 had been spent on 273 miles of subsidised lines, and £1,342,605 on 501 miles in course of construction.

#### INDIA.

In India all but seven of the 33 State Railways worked by companies are shown as having produced a gain to the State

in 1911 the Government of the State by the East Indian Railway to be given by the Government Extension. The latest line was given by the Western and Southern Maharashtra and purchased lines. Thirty-nine native State railways in 1911 gave a percentage of 1.31 (Parlakimedi Light). The State lines were acquired from the companies between 1868 and 1910, the general terms of purchase in most cases being fixed at a sum equal to the value of the shares calculated at the mean market price during the three years preceding the date on which notice of purchase was given. The amounts were paid in the form of annuities, running in some cases for 73 years.

#### ALICE, CALIFORNIA, AND PORTUGAL.

Under the heading of State Railways in British Colonies not possessing responsible government, and in British Protectorates, the following countries are referred to:—British Honduras, Ceylon, Cyprus, East Africa Protectorate, Gold Coast, Hong Kong, Federated Malay States, Jamaica, Johore, Malta, Mauritius, Northern Nigeria, Sierra Leone, Southern Nigeria, Straits Settlements, Trinidad, Uganda Protectorate. The highest capital expenditure is shown by Ceylon with £6,377,135, and in 1911 the gross receipts, totalling £905,544, gave a profit of £483,039, which was applied to interest, sinking fund and new works. Most of the foregoing undertakings showed a surplus of revenue over expenditure.

#### EUROPEAN STATE RAILWAYS.

Appended is a table which we have compiled from the details given respecting State railways on the Continent of Europe. Mention should be made that in some cases the surpluses shown are converted into deficits after meeting interest and amortisation charges. Where the surplus is considerably less than the difference between receipts and expenditure the returns make allowance for payment of debt charges:—

Year.	Capital.	Gross Receipts.	Working Expenses.	Surplus or Deficit.
Austria ..	241,000,000	31,470,739	25,051,382	+ 6,419,357
Hungary ..	18,400,000	18,450,000	15,572,408	+ 2,882,212
Belgium ..	10,254,880	12,372,020	8,101,088	+ 4,270,932
Bulgaria ..	10,254,880	741,200	508,880	+ 232,320
Denmark ..	2,494,985	2,307,016	2,307,016	+ 0
Italy ..	11,000,000	21,025,293	10,524,708	+ 10,500,585
Norway ..	8,054,304	640,057	180,231	+ 4,504,126
Portugal ..	11,000,000	2,416,752	2,416,752	+ 0
Roumania ..	327,585,000	6,620,000	6,620,000	+ 0
Finland ..	5,255,528	1,720,000	1,400,000	+ 320,000
Sweden ..	31,200,821	3,063,243	3,063,243	+ 0
Turkey ..	54,240,240	7,800,000	4,985,000	+ 2,815,000
Germany ..	14,200,000	14,200,000	14,200,000	+ 0
State ..	101,000,000	9,171,264	7,207,712	+ 1,963,552
Western ..	70,000,000	1,000,000	6,785,889	+ 4,814,111
Northern ..	12,000,000	12,000,000	5,887,440	+ 6,112,560
Eastern ..	19,000,000	11,370,480	6,200,240	+ 5,170,240
Orleans ..	11,000,000	5,140,740	780,000	+ 4,360,740
Southern ..	11,000,000	5,140,740	780,000	+ 4,360,740

#### GUARANTEES TO FRENCH RAILWAYS.

Regarding the French railways the greater part of the capital expenditure of both the "State" and company undertakings has been borne by the companies. Since 1883 each company has been required to set apart from its net profit the sums necessary for (1) payment of interest and sinking fund for bonds issued by it, and (2) payment of a fixed rate of dividend on the shares, and statutory contribution to sinking fund. Should the net profit be insufficient, the deficiency was to be made good by the State (for a number of years) in the form of advances to be repaid out of future surpluses with interest at 4 per cent. (reduced for the Southern Railway to 3 per cent. in 1897). Once the total advances had been repaid, the surplus profit above that necessary for the purposes indicated above was to be divided in the proportion of two-thirds to the State and one-third to the company.

The debt already owed to the State by the Western Railway—the only one making use of the guarantee for the years immediately preceding 1883—was reduced from £9,600,000 to £6,400,000. The State reserved the right to acquire the various undertakings on terms prior to the expiry of the concessions; on their expiry, as under the Conventions of 1859, the State was to pay merely the value of the permanent way and rolling stock, less any sums advanced under the guarantee. In 1883 the amount which the State was called upon to pay under the guarantees was £3,360,000; the amount has varied since, the maximum having been £3,850,000 in 1893. Of all the companies the Western Company made each year the largest demand on State assistance; by the

its system was, moreover, closely intermingled with the State system, and the French Government was authorised by legislative enactment in July, 1908, to acquire the Western Railway and its system.

The Northern Railway has never found it necessary to apply to the State under the provisions as to guarantee; on the other hand, its profits have never been sufficiently high to entitle the State to a share.

The Paris-Lyons-Mediterranean Railway Company made an agreement with the State in 1897 whereby the Government remitted the debt of the company in return for (1) a reduction of the annuities due to the company in respect of the service of bonds issued by the company on behalf of the State; and (2) a reduction of the rate of dividend payable by the company prior to the State participation in the profits.

The Eastern Railway Company began in 1899 to repay the advances made by the State. In 1900 it repaid £380,437, and in 1910 £718,110, and in 1911 it made an agreement with the Government whereby it was permitted to repay immediately in cash almost the whole of the outstanding advances, and the same arrangement as that indicated in the case of the Paris-Lyons-Mediterranean Company was made in regard to profits.

The Orleans Railway Company commenced to repay the State advances in 1898, and continued to do so until 1909, in which year it repaid £48,723; but in 1910 it had to invoke the State guarantee to the amount of £240,946.

The Southern Railway Company, after being in a position from 1904 to repay advances, found State assistance necessary in 1909 and 1910; it required from the State in the former year £178,132, and in 1910 £250,033.

#### CANADIAN RAILWAY NEWS.

##### CANADIAN PACIFIC RAILWAY COMPANY.

The Canadian Pacific Railway Company, it is claimed, have from the start discouraged the sale of its lands to speculators. The lands have been sold to the actual settlers, thus ensuring a more rapid development, and the creation of traffic for the railway. At present, some of the company's lands are selling for \$30 per acre. The average rate is \$15 per acre. There are nearly 10,000,000 acres still to be sold. It is reported that the lands of the company are worth the entire capitalisation of the system.

PROGRESS OF THE CANADIAN NORTHERN RAILWAY.—Sir William Mackenzie states that only 50 miles of the Canadian Northern Railway Company's transcontinental line will remain to be finished at the end of this year, and that the gap should be closed early in 1914, giving the Canadian Northern Railway its own rails through from Quebec, Montreal, Ottawa, and Toronto to Winnipeg and to the Pacific Coast.

C.P.R. AND HALIFAX.—Two thousand men are engaged in constructing the new terminals in Halifax, Nova Scotia, and as soon as the work is completed the Canadian Pacific will be granted full running rights into Halifax.

berlin, president of the Grand Trunk Pacific, and Mr. Smithers, chairman of the board of directors, have returned from a trip over the western line. Mr. Chamberlain says that there are still 275 miles of the Trans-Continental line between Cochrane and Winnipeg uncompleted, but the line will be in a condition to handle wheat this winter if necessary. Rail work in British Columbia is progressing rapidly, and it is hoped to have the rails connected through to the Pacific Coast early in the season.

not at all surprising that Canada, who has already spent

means of internal communication, should be seriously alarmed at the prospect of finding these vast sacrifices not realized, yet seriously diminished in value, by the arbitrary action, as she deems it, of the Atlantic Shipping King. It is no secret that the Canadian Federal Government has been for some time in communication with the authorities in this country with a view to finding some means of reducing ocean freights between British and Canadian ports. The chairman of the Canadian Railway Board has just concluded a special mission to this country."

## FLEXIBLE COUPLINGS FOR MACHINERY.

FROM A COLL. FORDIST.

The present-day practice in all branches of electrical and mechanical engineering demands that where possible various machines shall be direct-coupled, as this method of coupling gives greater mechanical efficiency and consequent reduction in fuel for given duty. But there are always difficulties present in such methods, and one of the principal is the important question of "lining the shafts" in the first instance, and then the all-important one of "keeping them in line afterwards." In the past, bearings and shafts suffered from heating, waste of power, breakage, seizing, extreme vibration, &c. A study of the question has been made by the engineers of the Standard Engineering Association, of 76, Gladsmuir Road, Whitehall Park, London, N., and it shows that enormous losses are daily taking place in many power plants. There is no doubt that the price of rigidity is trouble and cost.

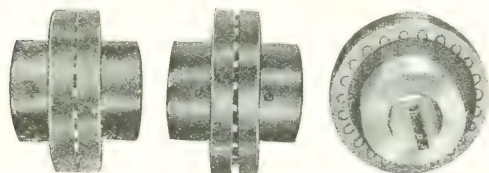


Fig. 1.

Fig. 2.

Fig. 3.

The above form of coupling on the market is most interesting and simple flexible coupling which is calculated to meet the difficulties encountered generally, and at the same time is claimed to be cheap, simple, flexible in all directions, durable, effective, and compact. The coupling is constructed entirely of metal; no rubber, leather, or fibre is used in its construction, and after many months' work it presents no backlash due to the wearing of parts, and at the same time it can be run with equal efficiency in either direction. This coupling can be supplied in sizes from  $\frac{1}{4}$  in. to 20 in. shaft diameter, and in powers from the smallest size suitable for the direct-coupling of magnetos for firing gas engines, up to 10,000 horse-power, and for speeds from 5 to 10,000 r.p.m. It is suitable for working in either hot, cold, dirty, or clean positions and requires very little if any lubrication.

The coupling is very little heavier than the best of any ordinary flanged coupling, and by its use two unlined machines will run as sweetly as if they were in perfect alignment. It takes up all mis-alignment, eliminates vibration, takes all strain from shafts and bearings and the hot bearings resulting therefrom, is a sound mechanical job, and at the same time

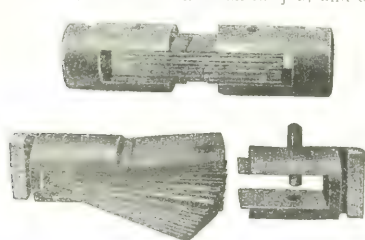


Fig. 4.

is really flexible. These flexible couplings are used on all kinds of engine coupling and in factories and are an essential part of every large industrial machine. They are included in 2 main classes.

1. Water turbines, electric motors, and other machines which are driven by water, steam, or other power. 2. Mechanical stokers, &c. Recently several large motor boats, mechanical stokers, &c. Recently several large motor boats, mechanical stokers, &c. Recently several large motor boats, mechanical stokers, &c.

Recently several large motor boats, mechanical stokers, &c. Recently several large motor boats, mechanical stokers, &c. Recently several large motor boats, mechanical stokers, &c. Recently several large motor boats, mechanical stokers, &c. Recently several large motor boats, mechanical stokers, &c.

in which rigid couplings are used between the prime mover and the alternator. By the use of the present coupler, a much better result may be obtained, and in the event of a bad paralleling switch coupling, less damage is likely to take place owing to the slight movement given in such cases with

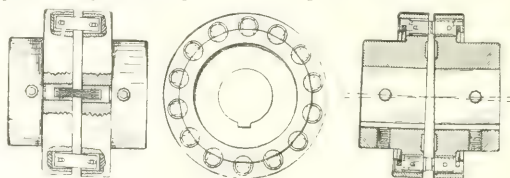


Fig. 5.

this coupling. At the same time the end movement, which is also given, allows armatures or magnets really to float in their true magnetic field, avoiding considerable friction to bearings. The couplings are very successful in smoothing out the voltage pulsations given off by generators driven by single cylinder small gas or oil engines. The flexible coupling allows each shaft to run on its own centre, and the power transmission is as large in this coupling as the ordinary rigid coupling of equal size.

The couplings for motor-boats and other special applications are of a slightly different design, but the stationary plant coupling is illustrated by Fig. 1, which shows the coupling as coupled up by the mechanic in as true line as he is able to gauge it. A slight space is seen between the faces; this allows the flanges to come closer together should the running of the shafts require it. Fig. 2 shows the same coupling in which it will be seen that the end play has opened the space and the machines have found their own centre of running, such as between, say, a motor generator or engine and dynamo. The coupling thus allows for end play.

The drive is taken on a number of small pins and tempered steel leaves, and Fig. 3 shows the end view of one side of the coupling showing key-way, and the ends of the said pins round the outer edge of the coupling.

These pins are close-fitting, so that no movement is taken on them. The movement is really taken on the tempered steel leaves, which, together with the pins mentioned, are shown in Fig. 4. At one end of the leaves it will be noticed there is a slot which allows the end movement, apart from the springing effect. The leaves and pins are arranged in a radial position as is shown in the central drawing of Fig. 5. The slotted leaves (of which there are hundreds) do the driving and distribute the work over the very large area of hardened steel facing.

When running the leaves act in a similar manner to the leaves of a carriage spring, and with equal reliability and with certainty of long wear. When shafts are out of line they want to open up on one side and shut on the other side. This action is shown on the right-hand side of Fig. 5. A rigid coupling would burn out the bearings or break the shafts if so forced to run out of line. The view on the left-hand side of Fig. 5 shows the coupling extended to allow of perfect driving, the spring leaves taking the entire drive with great elasticity and absence of shock to either driving or driven machine. Fig. 6 shows at the top the position of the tempered leaves when the coupling is extended. They act like a flexible belt, as is shown at the bottom of the right-hand of Fig. 5, and the radial view of Fig. 6 shows the normal position when there is no out of alignment to deal with. The bottom view shows the position of the leaves when, as in the case of the top of the right-hand view of Fig. 5, they are pushed right in. Fig. 7 shows at the top the leaves taking the drive

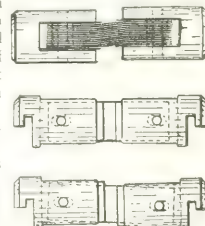


Fig. 7.

the entire drive with great elasticity and absence of shock to either driving or driven machine. Fig. 6 shows at the top the position of the tempered leaves when the coupling is extended. They act like a flexible belt, as is shown at the bottom of the right-hand of Fig. 5, and the radial view of Fig. 6 shows the normal position when there is no out of alignment to deal with. The bottom view shows the position of the leaves when, as in the case of the top of the right-hand view of Fig. 5, they are pushed right in. Fig. 7 shows at the top the leaves taking the drive



view of Fig. 7 shows the position of the leaves in true line, and the bottom view shows the rock of the leaves when out of line.

These couplings are very conservatively rated, and will carry heavy overloads. By their use expensive taper fits are unnecessary, and the trouble experienced by the settling of foundations or girders can be avoided. It has been proved that it costs less money in labour and other expenses to take two machines just as they come from the workshops and connect them up with these flexible couplings than it does to take the same two machines and to spend time and money by using the ordinary rigid couplings.

## NEW RAILWAYS AND ROLLING STOCK.

The Argentine Budget for 1914 set apart a sum of 19,760,000 pesos for railway works.

The Minister of Public Works has approved the specification prepared by the State Railway Department for works that are to be carried out during the current year on the Central Northern and the Argentino del Norte Railways. These works will cost \$3,000,000.

The legislature of the Province of Mendoza has definitely approved the Bill authorising the province to subscribe to shares in the Rosario-Mendoza Railway Company to the value of \$500,000 gold, and bonds to the value of \$3,000,000 gold, when said railway has penetrated into the province for a distance of at least 50 kilometres. Payment of the shares to be made under the same conditions as those ruling for the public issue.

Reuter's Buenos Ayres correspondent reports that the Senate has voted in favour of a concession to the Lalucot Company to build railways connecting the provinces of Santa Fé and Santiago del Estero and to construct a harbour at Port Maladrigo, the railway terminus.

—The New South Wales Legislative Assembly has unanimously passed a Bill authorising the raising of a £3,000,000 loan, to be earmarked for railway duplications and deviations, and for the purchase of rolling stock. The Colonial Treasurer has announced that he did not anticipate any difficulty in securing the money in London. The coming wheat crop was expected to yield 40,000,000 bushels, and the carriage of this, together with the wool, would necessitate extensive additions to the rolling stock. The marvellous development of the State made the duplication of the lines of paramount importance.

a Board of Trade regulation, dead buffer wagons must not be used after the end of the present year unless by that time the vehicles have been reconstructed. Wagon-building firms are at the present time full up with orders, and it is reckoned that if they started at once to replace the stock which will be rendered idle throughout the country as the result of the Board of Trade regulations the work could not be carried out in two years. The price of a 12-ton wagon is now about £63, as against £63 two years ago.

**RAILWAY SHOPS AT QUÉBEC.**—Tenders are under consideration for the erection at Quebec of the shops of the National Transcontinental Railway. Among those who tendered were Quinlan and Robertson, of Winnipeg; Lyall, of Montreal; and King, of Port Arthur. The first-named firm successfully completed the contract for the Transcona shops, near Winnipeg.

**ROLLING STOCK FOR RUSSIA.**—The Russian Minister for Ways and Communications requires for 1914 30,000,400 roubles for new rolling stock and rails.

St. Petersburg that French financiers will advance a loan of £8,000,000 to Russia for the construction of railways from Northern Anatolia. M. Kokovtsov, it is stated, on the occasion of his visit to Paris, will definitely conclude the arrangements for the loan.

St. Petersburg announces that the Bokhara Railway Company has been formed, and statutes have been sanctioned for the building and working of 400 miles of railways in the tributary State of Bokhara. The railways will be connected with the Imperial Central Asiatic Railway.

## MEETINGS AND REPORTS.

### FORTHCOMING MEETINGS.

Colombian Northern Railway

Demerara Railway

Grand Trunk Railway

*Reports, Traffic Returns, Prospectuses, and all other items of financial intelligence should be sent as early as possible to the Editor of THE RAILWAY TIMES, 12, Norfolk Street, London, W.C. (Telephone, 4095, Gresham.)*

### OTTOMAN RAILWAY FROM SMYRNA TO AIDIN.

The 10th meeting of the Council of Administration, together with the House, Old Board of Directors, and the Council of Administration, (president of the Council of Administration) presiding.

The President said: Gentlemen, I propose: That the report of the Council of Administration, together with the statements of accounts to June 30, 1913, now submitted, be received and adopted, and that, in accordance with the recommendation of the Council of Administration, the following is hereby declared to be the result of the work of the Council of Administration during the period with which we are now dealing.

In asking my colleagues and myself that we are again able to submit to you a report which we have the pleasure of presenting to you, I have the pleasure of meeting you I told you that the first six months of this year were not likely to bring in receipts equal to the fine revenue we had derived from the corresponding period of the preceding twelve months, and experience has verified that forecast; but, although those receipts did not come up to what we had obtained in 1912, they were (with the exception of that record) the best that we have ever had from the first half of any previous year, and taking into consideration all the circumstances in which those receipts were earned, I think we may well be contented with the results of the working of our railway during the period with which we are now dealing.

Corresponding figures for last year, you will see that coaching receipts still show an improvement of £3,197, while, on the other hand, the goods receipts are less. This is due to the fact that the goods receipts were affected by the prohibition of the carriage of olive oil in a season immediately following such a bountiful crop as we had in 1912. The goods receipts were also adversely affected by reason of the prohibition of the carriage of olive oil over our railway. At the same time, our receipts from the Port of Smyrna were blocked, which produced a serious shortage of coal and a considerable advance in its price. You will also see on the expenditure side of the accounts an increase under the heading of maintenance of carriages and

locomotives, to £50,000, and of which we have

That, gentlemen, is, I think, all I need say about the

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for the past year, which you have in your hands, that the particular way the bridges and the stations along the line, as well as the running stock, to which I have already referred, have been very maintained and have been constantly undergoing repairs and improvements.

On the whole, therefore, gentlemen, when we remember the lamentable troubles and trials through which the Turkish Empire has lately been passing, and the effects which the war has necessarily had upon all commercial undertakings in this country, and especially on such an enterprise as ours, which works without any Government guarantee, we may be well satisfied with the results which the labours of our staff at Smyrna and along the line have been able, under such adverse circumstances, to present to us, and I have no doubt that you will express your approval by accepting the resolution which I have proposed to you.

As to our present position and our present prospect, you will no doubt have seen by reading our weekly traffic returns that from June last there has been an advance in our receipts as compared with those of the same months of 1912, and I am glad to be able to tell you that our latest reports from Smyrna are decidedly encouraging. As I know that this is naturally a question of special interest to our shareholders, I will read you a few lines from the last letter we have received from Mr. Hobson, who has been acting manager during Mr. Barfield's absence on leave. Mr. Barfield is now on his way back to his post, and I am sure we all hope that he will find his health all the better for his holiday at home. (Hear, hear.)

Mr. Hobson writes in his letter (dated September 19):

"In the prospect for the year to June 30 next are most encouraging. Besides the grain, about which I have nothing to add to my previous report, we are promised a record olive crop, and the quantity of oil for transport will, if all goes well, be at least ten per cent. over the 1911 to 1912 crop, which was itself a record."

"A famine is an extremely large crop, but it is difficult to estimate the traffic to be derived from it, as prices being unusually low a good deal will probably not be packed. Tobacco was planted on a large scale this year, and although a considerable quantity was destroyed by locusts, the crop will, I anticipate, provide another record. Other summer crops are a good average, and I think cotton is the only article which will give a poor return. Part of damage by locusts caused a smaller area to be planted than usual, and one or two spells of intense heat have, I understand, affected it adversely. The amount actually destroyed by locusts has been small. It is, however, most important that the Government should take in hand promptly and energetically the destruction of locusts."

That is, I think, on the whole a satisfactory report of the present position of affairs, and unless the operation of our railway should be further hampered by a deficiency of labour and transport, which, by some very untoward combination, internal or external, should arise to interfere with the normal course of our business, we think we may fairly expect a continuance of good results in the immediate future. (Applause.)

I now call Mr. Treway to read the resolution.

Mr. J. H. TREWAY: I have much pleasure in seconding the resolution.

The Chairman: Has any shareholder any remarks to make? (No response.) Then I will put the resolution to the vote.

The resolution was accordingly put, and carried unanimously. The President, then, gentlemen, concludes the business of the meeting, and I think it is the shortest we have ever had.

Mr. R. L. AUSTIN: That is the end of the business, I think, and I am very sorry to see the end of the table, because I think the shareholders are only too delighted to come here to see the directors and hear their thanks for their services. As the directors are very young, English and foreign, I know the difficulties which directors have continually increasing upon them, and therefore the old days around the board-table, when there was very little to disturb the happy results.

There is one thing to be preserved, I feel, and that is the character of Mr. Barfield, and I was very glad to hear of his return. What I most admired in him was his reticence in giving information which would be of value to the public.

I think the directors are doing very well, and are on a satisfactory. I need not enlarge upon that, but will now beg to move that a hearty vote of thanks be accorded to the directors, and that the thanks be given to the past year.

I, I, H. PETER: I have read the report, and I am very glad to hear of the return of Mr. Barfield, and I think the directors are doing very well, and are on a satisfactory.

perhaps, that we should give a vote of thanks to the directors and officers, considering the enormous amount of anxiety and the enormous amount of extra work they must have had during the past twelve months to carry on this concern so successfully as they have done under adverse circumstances.

The resolution was then put, and carried unanimously.

The PRESIDENT: Well, gentlemen, I thank you very heartily on behalf of my colleagues and myself, and I will take care that the expression of your approval shall be conveyed to our staff in Smyrna, who, I think, very well deserve your confidence. (Hear, hear.)

The proceedings then terminated.

## ASSAM RAILWAYS AND TRADING.

The thirty-third ordinary general meeting of the shareholders was held on Wednesday, October 1, at Winchester House, Old Broad Street, E.C., Lord Ribblesdale (the chairman of the company) presiding.

The SECRETARY (Mr. S. Maclean Jack) having read the notice convening the meeting and the auditors' report,

The CHAIRMAN said: As we explained in the circular which we issued in December last, the accounts cover on this occasion a period of fifteen months. This is in accordance with the wishes of the Government of India, who have asked all Indian railways to alter their accounts so as to terminate their financial year on March 31 in order to accord with the Government of India's own financial year. This, of course, makes comparisons with the past a little difficult, but the inconvenience will disappear after the present issue of the accounts. If you turn to the railways, you will see that we have done very well during the past fifteen months. The income shows an increase of Rs. 1,06,505, or £9,700 over the corresponding months of 1911 and 1912, whilst expenditure has remained to all intents and purposes the same, the net revenue thus being better by Rs. 1,45,574. The actual profit for the fifteen months is £18,000, or at the rate of £3,712 per annum, which is considerably the best year the railway has yet had. In 1911 the profit was £20,000, and our record best year up to now showed a profit of £32,000. You will notice that the item which was referred to last year, maintenance of way and works, has been reduced, as we indicated would be the case, and it now shows the more reasonable proportion of 17.35 per cent of the gross receipts. The income shows a satisfactory increase under the headings of coaching and goods traffic.

### THE ROLLING STOCK.

During the year, as stated in the accounts, we have replaced four of our "E" class locomotives by four "H" class, a process which has been going on for some little time. During the latter part of 1912 we shipped out two more "H" class to replace the last two "E" class, and these were being erected at the time the accounts were made up. We have also added another composite bogie coach to our stock and other things, but there is still a good deal of replacement to be undertaken in coaching stock, and we are continuing with this work steadily year by year. The policy of building a better and more commodious type of passenger coach has amply justified itself. You will see there are no increases in the goods vehicles in the present accounts, but we have placed orders for, and there are now under construction, 18 bogie timber wagons to deal with an important and increasing traffic on the line. You will see that the capital expenditure on the railway has amounted to £25,471, details of which are given in account No. 5. On the whole, the railway has had a successful year, and I think we have every reason to congratulate ourselves upon its results, and, accordingly, and in the management of Assam on the good business they have been able to carry on to the satisfaction of the board, the shareholders, and the public we serve. At this point I might refer to the small Rungtong branch, of which I have spoken on several occasions. We looked very carefully into the matter, but on considering the final estimates and plans we came to the conclusion that the probable results would hardly justify the expenditure, and accordingly we have shelved that project. I would turn to the coaching accounts you will find that during the fifteen months the sales were very large in consequence of a very successful tea season. Unfortunately, the output was not only below our usual output, but our cost per ton was very heavy, and it is this increase in the cost per ton which has prevented the colliery accounts showing much better this year than they do. To put it quite shortly, the explanation of this is labour. In common with the rest of the world we find our labour costs advancing. I would not like to say that our labour is more difficult to manage; it is not. We have not the troubles there which more civilised nations of Europe seem to encounter, but we have had conditions to deal with which

I have been profitable, except that I have not been able to pay my colliery expenses. I have been able to pay my other expenses, but I must be aware that the Government of India has made changes in the value of the rupee recently. As a result, these changes, if continued, have forced us to recruit the whole of our labour arrangements, and to pay our labour from new and more expensive sources. Our first experiment in tapping this new recruiting source was not very successful. These additional costs are not permanently one of the things that our colliery profits for some little time yet. However, although labour costs are permanently up to a certain extent, I hope in the near future to get our expenditure in this respect on a very much better level than that shown in these accounts.

$$1) \leq x \leq 1, y, z \leq 0, x + y + z = 1.$$

Whilst I am on the subject of the collieries, I might add that during this year some new seams of coal have been discovered in a place which we knew about and where we expected to find them. We think those discoveries of sufficient importance to send out Mr. Harris, who was for many years your colliery superintendent and finally general manager, to Assam this cold weather, to report upon their capacity and to advise as to the best methods of developing. If these new seams prove as valuable as we are inclined to think, they would certainly constitute a very material increase in the property and the future prospects of the company. Hence, I have glad news that your investments continue to do well; indeed, they seem to be superior to the angry passions of the Balkan provinces and their intractable neighbours. Both the Makuam Company and the Rivers Steam Navigation Company maintained their distributions for 1912, and the Oil Company paid its preference dividend and the same dividend as last year on the ordinary shares. The oil accounts from last year were satisfactory, showing an increased profit. I happen to know something of the oil business, and I am glad to tell you that it is a goodly and profitable one, and things are going on as I think it should be able to publish an even better balance sheet than last year for 1912. As you know, we are now developing the garden. This is doing well. The clearances are going on, and a good area has been planted out. Some of the tea will shortly come into bearing, but of course it would be very unwise to say that we can do very much at present. It would be bad policy to think of manufacturing tea for some little time, but the question of a factory will have to come before us at no very distant date.

year I told you that we had arranged to issue the balance of our debentures, and you will see from the present accounts that this has been done. The whole of our present created capital is, therefore, now issued, but of course in a company of this sort our capital expenditure does not cease, as the railway is always making fresh demands in this respect. As you will see from the accounts, for some years past we have spent on capital account from £15,000 to £20,000, and some additional capital will be required in the ordinary course of events. Your board have carefully considered the subject and we intend to propose increasing the amount of the "B" stock, say, up to about £300,000 by the issue of £81,250 of stock, which will be agreed in principle but not entirely settled in detail, but the necessary meetings to authorise this issue will probably be called in the early part of next year. I would also like to refer to the fact that on the re-election of the auditors we are suggesting, Messrs. Price, Waterhouse and Co. have acted as the auditors of this company since its formation in 1881, and though during that period the accounts have, of course, increased very much in volume and intricacy, their fee has remained at the same amount. I cannot think therefore that any objection can be raised to this. As regards dividends, we have, of course, paid all the preference dividends, and you will see that the board recommend giving a final dividend on the "B" stock for the nine months at the rate of 8 per cent. per annum; that is actually a distribution of 6 per cent. This, with the interim dividend paid in December, will make a total distribution for the fifteen months, at the rate of £7 4s. per cent. per annum. This concludes all that I have to say, and I now move "That the report and accounts and balance-sheet to Mr.

Seconded (read Sir Alexander G. D. Ross, B.C.S.), seconded the resolution.

had studied the report would feel gratified with the result of the fifteen months' working under review, for whilst they had observed that the profits of the trading branch were proportionately smaller than those of recent years, it was obvious that

by many of his fellow shareholders was the marked increase in the net revenue of their railways. This increased profit was at the rate of £2,000 a year, and those who knew the stipulations under which the railway concession was granted would be quick to realise the proved significance of that figure and its bearing upon the future capital value, for, in the event of the Indian Government exercising its option eight years hence

Mr. A. D. GORDON questioned whether it was wise not to add something further to the reserve fund.

The CHAIRMAN, in reply, said he was glad to hear the remarks made by Sir George White, and with regard to those made by Mr. Gordon, he explained last year that the board had done enough in the matter of reserve. It had constantly been before the board, who were still of the opinion that the reserve was sufficient.

The resolution was then put and carried unanimously.

On the proposition of the CHAIRMAN, the several dividends recommended in the report were unanimously adopted; and on the proposition of Mr. HERBERT the remuneration of the auditors was increased from 100 to 150 guineas.

On the motion of Sir GEORGE WHITE, seconded by Mr. GORDON, a hearty vote of thanks was accorded to the chairman and directors for their past services.

## CANADIAN PACIFIC RAILWAY.

October 1, the report of the directors (which was published in the RAILWAY TIMES of August 30) was unanimously adopted. Mr. David McColl, Mr. Charles R. Hosmer, the Hon. Robert Mackay, and the Hon. James Dunsmuir were re-elected directors. A resolution was passed authorising the issue of 4 per cent. debenture stock on account of branch lines and extension of branch lines, and of the steamships mentioned in the annual report.



expedients for these purposes during the next few years need to be carefully considered; those of the past, however, when the lines now being built are completed, our construction programme may be substantially modified; and with the exception of a few minor improvements at one or two points in Eastern Canada, where no suggestion during the busy season is annoying, as well as expensive, and the completion of a second track on portions of the main line, we will, by the end of the season, be well ahead of our requirements. This year the company's assets, including its share capital, including the recent issue of \$8,000,000, is \$28,700,000 more than it was in 1913. Of this the amount of \$12,400,000 was expended in the construction and acquisition of additional mileage and the purchase of ocean, lake and river steamers, and the additions to your car and locomotive equipment absorbed \$101,000,000. The balance of \$8,700,000 was used for the general improvement of your property, but this amount was supplemented by premiums on stock issues and appropriations from surplus earnings to the amount of \$105,000,000, nearly all of which will have been expended by the end of the current year, so that you will have invested in your property, in those ten or eleven years, this large sum of \$1,700,000, so that it will represent no capital liability, and will consequently make no drain upon your revenue.

#### STEAMSHIPS.

Only a very small portion of the earnings of your Atlantic and Pacific steamship lines was during the past few years included in your net revenue, the greater part having been transferred instead to the steamship replacement fund. As this fund now approximates the entire cost of your original Atlantic fleet, it is neither necessary nor desirable to increase it by liberal appropriations hereafter. Your Atlantic fleet has in recent years been supplemented by the acquisition of eighteen steamships with a gross tonnage of 146,300 tons. The earnings of these steamships have been utilised in reducing their cost to your company, which now stands at about \$2,750,000, calculated ratably in advance, and investments, pending a determination of policy. The Trans-Pacific steamships, while not so contributors of traffic to your railway system, have been particularly profitable, and, indeed, the Atlantic ocean traffic has increased considerably from year to year in volume and value, but I think that we may with safety anticipate an annual net income of \$2,000,000 from the Trans-Atlantic and Trans-Pacific steamship lines, after making due provision for interest on their cost and for depreciation. The formation of a steamship company to acquire the vessels whose cost has not been capitalised, or to charter or lease those purchased with the proceeds of securities, and to provide means for the construction of new vessels, may in time to time of additional vessels of a suitable type, and of the character of the fleet and to strengthen its earning power is receiving some consideration.

Most of the Company's hotels are yielding a fair return, but some of them, provided as necessary accessories to your tourist trade during the summer months, are operated at a loss. However, on the whole, your hotel system is reasonably profitable, and, hereafter, the net profits which have been used in the past for additions and improvements will be treated as a separate fund.

Looking to the future you will acquire lands, the utilisation of some of your coal lands, and other circumstances, have caused you in a number of instances that do not ordinarily come within the province of a railway company. There are, however, some mining and other property interests of considerable value as compared with what they cost you from which some revenue in the current year will be approximately \$1,000,000. The mines at Barkham, Hosmer and Little Lake, and the saw mill received in the year upwards of \$1,000,000, the saw mill at Bull River in British Columbia, where ties and timber are manufactured for the company, is a doubtful commercial enterprise, excepting in so far as it serves to keep prices within reasonable bounds. Railway companies in the United States are required to segregate their timber and other property and their income from other sources, and this is done as far as possible by legal means, but in Canada, as you are now aware, recently made such a change in its legislation as to require, as practically as possible, the proceeds of such property companies, but we still include in the earnings of the railway the returns from the timber and other property of our Pacific coast steamships.

There is no doubt that some of the income from these sources will be used for the benefit of the railway, and of course, there is no doubt that some of the income from these sources

and held for speculative purposes, regulations were adopted last autumn confining sales to actual settlers; and, in order that it may be as easy as possible for settlers to purchase and develop lands, only one-twentieth part of the purchase price is required to be paid down, and the balance is spread over a period of 20 years, with interest at 6 per cent. per annum. This policy should have the effect of bringing your lands under cultivation with increased rapidity, and while the cash instalments will be less than heretofore, the deferred payments carrying interest will yield a larger income. Your ownership of 6,287,250 acres of land in Manitoba, Saskatchewan, and Alberta is mentioned in a footnote to the balance-sheet, but it plays no part in your accounts, excepting when the lands are sold. With established conditions in Western Canada and the experience of the last few years, there would appear to be no difficulty about determining with a fair degree of accuracy the present value of this asset. Of course, as the lands are disposed of and the country becomes more thickly populated, the market value of the remaining areas will naturally tend upwards; but in order to be quite on the safe side let us adopt a figure that is somewhat below the average of the last few years, namely, \$14 per acre. On this basis your un-sold lands are worth \$88,000,000, but you have spent a large sum on irrigation works in the Calgary district, with the result that 300,000 acres of the irrigable land should bring an average of \$25 per acre above the price mentioned, or, \$12,500,000. Additionally, the unsold Esquimaux and Nanaimo lands on Vancouver Island and your residual interest in other lands acquired with railway lines constituting a portion of your system, will realise at least \$7,000,000. Then you have over two town sites, including Vancouver, appraised by the officers of the Land Department at \$21,500,000. The present estimated market value of these lands and townsites still belonging to the company is therefore \$120,000,000.

Your directors have been considering the desirability of conveying these lands, townsites and other interests to a company, in exchange for all its capital stock, to be held in your treasury and taken into the balance-sheet with your other assets, but a conveyance of that description has its disadvantages, particularly with reference to the lands, and it is probable that the same end may be accomplished by the creation of an investment fund to be administered by trustees, or by officers of the company specially designated. In any event, your directors will endeavour, before the next annual report is published, to devise some plan for reconstructing the special income account and showing your extraordinary assets in more definite and tangible form. In the meantime while the present policy of dealing with your land sales will remain unchanged, and the proceeds will be increased as heretofore, it is felt that the cash proceeds of sales in your treasury, which last year amounted to \$1,000,717.44, may with propriety be taken into special income to be dealt with as the directors in their discretion deem best.

At a meeting of the board subsequently held, Sir Thomas G. Shaughnessy was re-elected president, and Mr. David McNeill, vice-president, of the company, and the Executive Committee was appointed as follows:—Mr. Richard B. Angus, Mr. David McNeill, Sir Edmund B. Osler, Sir Thomas G. Shaughnessy, the Rt. Hon. Lord Southesk, and Messrs. Rowan and Sir William C. Van Horne.

#### DENVER AND RIO GRANDE RAILROAD.

The report for the year ended June 30 last states that there has been no change in the capital stock. The funded debt increased \$5,448,537. New equipment was purchased to the cost of \$2,211,453. The cost of additions and betterments aggregated \$3,005,017. The operating revenues, passenger, freight, and miscellaneous each established the highest record of returns from the property, the total being \$1,435,000, an increase of \$1,172,502, or 3.04 per cent. over the previous year. The revenue from freight traffic increased \$748,765, or 4.14 per cent., although the average revenue per ton-mile sustained a decline of 1.4 per cent. Now notwithstanding a reduction of 6.2 per cent. in the total number of tons freighted, freight traffic, the revenue ton mileage increased 5.15 per cent., attributable to an increase in the average haul per ton of 1.4 per cent. The development of transcontinental traffic accounting for this. The revenue from passenger traffic increased \$200,000, or 8.4 per cent., of which local travel contributed \$80,000 and through travel \$120,000. The number of passengers carried increased 1.5 per cent. The average revenue per passenger mile was 1.05 cents, a slight increase over the previous year. Total operating expenses were \$1,717,177, or just \$10,081,517, an increase of \$62,054, or 0.37 per cent. Marked progress has

The increase in total charges to maintenance of the line was £8,447, or 8.5 per cent. The passenger car (exclusive of those leased to other companies) carried 1,810,000 passengers, an increase of 15.3 per cent. The average tons of revenue freight per train mile were 305.18, or 15.3 per cent. increase. Freight train mileage declined 8.6 per cent. The reduction of 4.45 per cent. in passenger train mileage contributed to the saving in transportation expenses. Operating income, after sustaining an increase of more than 8 per cent. in direct taxes, exhibits an increase of 10.54 per cent., compared with the previous year, even though the operating revenues increased but 5.04 per cent. Net income, distinguished from operating income, in that it represents final results after all deductions, amounted to £2,004,170, an increase of 82.04 per cent. From this sum there was appropriated: For contributions to the renewal fund and for eleven months' contribution to the sinking fund, £1,000,000; for the purchase of new rolling stock, £1,000,000; for the purchase of new rolling stock, £1,000,000; leaving a credit brought down to profit and loss for the year of £1,457,371. With the exception of ordinary current accounts the company has no floating debt.

**Leeds and Liverpool Canal Company.** The annual meeting on September 19 that, bearing in mind the immense advantages possessed by railways and the competition created by the use of motor road wagons, the result of the half-year's traffic might be regarded as satisfactory.

**Staveley Coal and Iron Company.** Mr. C. P. Markham presided on September 23 at the annual meeting of the Staveley Coal and Iron Company, at Sheffield, and reviewed their progress since the company was formed, fifty years ago. In 1864 they had 1,500 railway wagons, and now they had 6,000, practically all miles of railway connected with the works.

**Southport and Cheshire Lines Extension Railway.**—At the half-yearly meeting in Southport last Saturday, Mr. J. E. Raynor, who presided, said that proposals relative to the train service had been made to the working company, the Cheshire Lines Committee, and he hoped at their next meeting they would have a more gratifying report to present. The report, which was adopted, showed that the receipts had increased by £652 and the expenses by £385.

**North Eastern of Uruguay Railway.** At the annual meeting held on Tuesday in River Plate House, E.C., Mr. Wm. Higgins, who presided, said that their line was leased to the Central Uruguay Railway Company, and that company had duly paid the rent. The company was doing well, and had taken its share in the prosperity that had taken place in the Uruguayan Republic. The directors proposed the payment of a balance dividend at the rate of 7 per cent. per annum on the ordinary shares. The report was adopted.

**British Westinghouse Electric and Manufacturing Company.**—At the annual meeting on September 23, the directors considered resolutions for the reduction of the capital from £1,000,000 to £500,000.

The company had 500,000 preference shares of £2 each and 75,000 ordinary shares of £2 each. Mr. J. A. Bryce, who presided, said that the scheme had been delayed owing to the fact that the litigation between the company and the Underground Electric Railways Company was approximately £122,000. Their appeal to the House of Lords had been successful, in that the arbitrator was instructed to take into consideration certain matters which the directors contended should be dealt with. As the first result of that decision they had got back from the railway company the amount they had paid under the award. After some delay a meeting was held, with a view to a settlement, with the result that they recovered a further £42,500, with an understanding that their former friendly relations should be resumed. If trade continued good, and there were no labour troubles, there appeared to be a fair prospect of a dividend in the near future. The resolutions were carried. At separate meetings of preference and ordinary shareholders the resolutions were also agreed to.

**Colombian Northern Railway.**—At an ordinary general meeting held in 9, Bishopsgate, E.C., last Saturday, Mr. R. Panga, who presided, said that the directors were glad to be able once

more to present a most satisfactory report of the work of the net produce for the year was £44,507, an increase of 10.54 per cent.

The scheme for the building of the line from the

carried forward, the board might find it possible to recommend the board, however, had always been a conservative one, and therefore they recommended a dividend of only 4 per cent. As they had heard that the production of the line after June 30 last had continued to increase, the board had no objection in recommending a dividend of 4 per cent., leaving the amount to be devoted to the reserve fund unchanged. After paying a dividend of 4 per cent., there would remain £2,022,000 to carry forward. He moved a resolution for the adoption of the report and the payment of a dividend of 4 per cent. Mr. R. A. Vargas seconded the motion, which was unanimously adopted.

## DIVIDEND ANNOUNCEMENTS.

**Leeds and Liverpool Canal Company.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

**Staveley Coal and Iron Company.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

**Southport and Cheshire Lines Extension Railway.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

**North Eastern of Uruguay Railway.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

**British Westinghouse Electric and Manufacturing Company.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

**Colombian Northern Railway.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

**Central Argentine Railway.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

**Leeds and Liverpool Canal Company.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

**Staveley Coal and Iron Company.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

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**North Eastern of Uruguay Railway.** The directors have decided to pay a dividend of 10 per cent. on the ordinary shares, making with the interim dividend paid in May, 6 per cent. per annum.

of the North Eastern line, 5 per cent. for the year ending March 31, 1912-1913. The dividend a year ago was at the same rate and £147,604 was carried forward. After providing for the interest on the debenture stocks, the rent of the North Eastern line, the dividend on the 5½ per cent. preference shares, the interim dividend on the ordinary stock, paid in April last, and all other charges during the year, there remains an available balance on net revenue account of £110,828, out of which the board propose to transfer £10,000 to the general reserve fund and £5,000 to the pension fund, leaving a balance of £95,828, less income-tax, making, upon the ordinary stock, making, with the interim dividend paid in April last, 6½ per cent. less income-tax for the year ending March 31, 1912-1913, carrying forward a balance of £20,902. A dividend for the year, distributed on the ordinary stock was 6 per cent.

**GRAND TRUNK RAILWAY COMPANY OF CANADA.**  
After providing for debenture interest, dividend on the 5 per cent. preference shares, and the interim dividend on the ordinary shares paid in April last, the balance of net revenue for the financial year to June 30 amounts to £22,083, out of which the board propose to pay a balance dividend of 5s. per share, less income tax, on the ordinary share capital, making, with the interim dividend paid in April last, 6s. 6d. per share, carrying forward a balance of £1,837. A year ago a dividend of 6s. 6d. was paid making, with the interim dividend, 11s. 6d. (5½ per cent.) for the year, less income-tax, carrying forward £1,654.

#### GRAND TRUNK RAILWAY COMPANY OF CANADA.

The Grand Trunk Railway of Canada has issued the following statement of its results for the year ending March 31, 1913:

Grand Trunk Railway of Canada.	
Statement of Results for the Year Ending March 31, 1913.	
	1912-1913.
Express .....	£1,234,567
Freight .....	£1,234,567
Passenger .....	£1,234,567
Other .....	£1,234,567
Total .....	£4,738,711
Less: Interest on Debentures .....	£1,234,567
Less: Rent of North Eastern Line .....	£1,234,567
Less: Dividend on Preference Shares .....	£1,234,567
Less: Dividend on Ordinary Shares .....	£1,234,567
Less: Other Charges .....	£1,234,567
Balance Available .....	£1,234,567
Transferred to Reserve Fund .....	£1,234,567
Transferred to Pension Fund .....	£1,234,567
Balance Carried Forward .....	£1,234,567

#### CONDITIONS ON WEEK END RAILWAY TICKETS.

**THE CITY OF LONDON COURT OF COMMONS.** Mr. Herbert Aspinall, M.P., presented a petition from the London and South Eastern Railway Company, praying that the company might be allowed to sell its week-end railway tickets at a reduced rate. The petition was read, and the company's case, as stated by Mr. H. Brewer, their solicitor, was heard. The company's case was that the week-end railway tickets were available for the purpose of enabling the public to visit the country on the week-end, and that the company was entitled to a return ticket on the Saturday unless he paid the excess fare. The company's case, as stated by Mr. H. Brewer, their solicitor, was that the week-end railway tickets were available for the purpose of enabling the public to visit the country on the week-end, and that the company was entitled to a return ticket on the Saturday unless he paid the excess fare. The company's case, as stated by Mr. H. Brewer, their solicitor, was that the week-end railway tickets were available for the purpose of enabling the public to visit the country on the week-end, and that the company was entitled to a return ticket on the Saturday unless he paid the excess fare.

## GENERAL NEWS.

### ELECTRIC RAILWAYS FOR RUSSIA.

The Russian Minister of Ways of Communication has received an application for permission to construct a branch line from the station of Dranishnik on the St. Petersburg-Finnish frontier railway (for which permission has already been granted) to the station of Roik near Lake Lembof. The length of the branch line will be 21 versts—14 miles. It will draw its current from the main connecting the Finnish Waterfalls with St. Petersburg.

The statutes of the Moscow-Odinoff electric railway have been approved. The railway is to be a double one, for public use, from Moscow to the station of Odinoff on the Moscow-First Railway.

The Council of Ministers has approved the project of an electric railway along the Riga shore.

### TRAFFIC OF THE PROPOSED CHANNEL TUNNEL.

Mr. H. S. Foy, honorary treasurer of the Entente Cordiale, gave a lecture on the proposed Channel Tunnel on Wednesday, at a meeting of the United Wards Club of the City of London. It was proposed, he said, that there should be between forty and fifty passenger trains daily, and a number of goods trains commensurate with the traffic. One of the great advantages of the tunnel would be as regards the transport of fruit from France, and from Spain and Italy through France, and the tunnel would have the effect of bringing many more foreign customers to British and French markets. Fancy cotton goods at present were sent from Manchester to Paris in a period of five to seven days by the *Grande Vitesse* or by the *Petite Vitesse* from fourteen to thirty days. These goods had to be transhipped twice, being sent first to London, then to Boulogne, and then from Boulogne to Paris. If there were a tunnel they would go there in about forty-eight hours. It was intended to run an hourly service to Paris alone apart from services to Belgium, Brussels, &c., and the necessity of four trains to fill one boat would be done away with.

### BRIGHTON COMPANY'S SEASON TICKET CONDITIONS.

At Eastbourne County Court a season ticket holder on the Brighton Railway, Mr. Danvers, of Heathfield, sued the company for £1 7s., the cost of the hire of a motor cab from Eastbourne to Hailsham. In consequence of an accident a train by which plaintiff desired to travel could not run and he hired a cab. The Registrar ultimately gave judgment for the defendant company with costs, holding that there was a special contract between the parties and that the plaintiff was bound by the published conditions under which the season ticket was issued; one being that the company would not be liable for the suspension or discontinuance of any train. Mr. Brewer (who represented the company), applied for costs on the higher scale, the matter being one of public importance and interest. The Registrar said that as an old season ticket-holder himself for 30 years he knew that the company up to recently always required the passenger to sign an agreement to abide by the conditions, and he thought the company were guilty of a certain amount of laches in not bringing the conditions more specifically before the plaintiff. He therefore refused the application. Mr. Brewer stated that he would call the company's attention to the Registrar's observations.

### BOARD OF TRADE REPORT ON THE YEOVIL COLLISION.

The Board of Trade have issued the report made by Colonel von Donop on the joint Board of Trade and coroner's inquiry into the collision which occurred between two passenger trains at Yeovil (Ben Mill) station, on the Great Western Railway, on August 8, resulting in three deaths and injuries to nine other passengers. As the 2.45 p.m. excursion train from Paddington, consisting of an engine, tender, and nine vehicles, was standing on the down platform line at Yeovil station, it was run into at 6.12 p.m. from the rear by the 6.20 p.m. train from Paddington, consisting of an engine,



train was seen to be in the danger zone.

It is a fact that the main cause of this accident was the fact of driver Dowler (of the Paddington train) having allowed his engine to run past the starting signal when it was at danger. The distant signal had been at danger when the train passed it, and even if the train had not been brought to an actual stand at the outer home signal, it had at all events been checked at that point, as Dowler admits that when he first sighted that signal it was at danger.

Similarly, the inner home signal was at danger when Dowler first sighted it, and even if it was lowered before the train was really close to it, Dowler had received another clear warning that he should proceed cautiously. Moreover, Dowler himself admits that when passing the inner home signal he distinctly saw that the starting signal was at danger, and he admits that he never saw this signal again until he was past it.

The only explanations which Dowler can give to account for his not having seen the starting signal are—firstly, that his attention was distracted by some hand signals which the signalman was giving him; and, secondly, that when near the starting signal he could not see that signal from his side of the cab.

Dowler's statement as to the signal not being visible from his side of the cab when he was passing is doubtless correct, but there was nothing to have prevented his moving to the other side of the cab so as to see it, or he could have made his fireman look out for it for him; and as regards his attention being distracted by the signalman, the latter asserts positively that it was not until the engine was close on the starting signal and he saw that the train was going to pass it at danger that he began to make signals to the driver.

It appears doubtful, therefore, whether driver Dowler's explanations can be accepted, but even if they are accepted, they will in no way justify his having allowed his engine to pass a signal which was not lowered for him, and which he had already seen to be at danger. The responsibility for this accident must therefore rest mainly on him.

Yeovil station is a comparatively old one, and its arrangements cannot be regarded as entirely satisfactory; the platforms have not sufficient length to completely accommodate the trains, and owing to the curvature of the lines the driver of a down train does not obtain a good view of the line in front of him when he is entering the station. The company state that the question of remodelling this station has been for some time under consideration; it is, I consider, desirable that this should be taken in hand at an early date.

### TOURIST SEASON TRAFFIC.

The exodus to the Continent during the summer months has been greatly in excess of the previous years. 10,000 more passengers have travelled *via* the London and Brighton Railway Company's Newhaven and Dieppe Route alone during the months of July and August. The introduction this season of the 25-knot geared turbine steamer *Paris* which crosses the Channel in 2½ hours, coincided with the opening of the doubled Pontoise Line between Dieppe and Paris, and has largely contributed to the popularity of this particular route. With the larger number of English tourists to the Continent, it becomes more evident that if the English watering places are to maintain their popularity they must provide greater attractions and the hotel proprietors, too, must see that up-to-date accommodation is provided at prices to compare favourably with the Continental hotels. It is well known that Continental resorts spend a considerable sum of money to bring their attractions to the notice of the English traveller, whilst our own resorts show a lack of enterprise in this direction.

Some remarkable figures are the outcome of this season's Manx touring traffic. For the five months from May 1 to September 29, the Isle of Man Steam Packet Company's 15 vessels made 2,431 trips, travelling a distance of 177,958 miles, being increases over last season of 53 and 5,219 respectively. Each trip averaged 73½ miles. This is equal to nearly a mile for every minute day and night, and to a trip

every hour and a quarter, even taking in the night time, three trips from Liverpool to New York per week. Saturday, August 3, was the busiest day, 1,000 passengers being carried.

So miles, and it is claimed that no such feat either in peace or war has ever before been accomplished. The *Ben-Mya* has made 100 trips from Liverpool to New York, a record for so long a period. At the request of his Government, Mr. Macmillan, the British Consul-General at New York, with five assistants, spent ten days on the *Ben-Mya* free for the purpose of studying the working of the turbines. The Irish traffic included 18 trips and 4,000 passengers whilst the Scotch traffic included 15 trips and 5,000 passengers.

### PERSONAL.

Colonel J. F. C. Hamilton, M.P., has been appointed to the post of Secretary of the Board of Railway Commissioners. Sir Walter N. Sargent, Bart., M.P., has been appointed to the post of Secretary of the Board of Railway Commissioners. Mr. Burton, M.P., has been appointed to the post of Secretary of the Board of Railway Commissioners. Mr. M. F. Ryan, mechanical engineer of the London and South Western Railway, has been appointed to the post of Secretary of the Board of Railway Commissioners. Dr. Hans Goldschmidt, of the University of Berlin, has been appointed to the post of Secretary of the Board of Railway Commissioners. Mr. R. Kent, of the North London Railway, has been appointed to the post of Secretary of the Board of Railway Commissioners.

Mr. William Gould, of the North London Railway, has been appointed to the post of Secretary of the Board of Railway Commissioners. Mr. C. W. G. Little, of the North London Railway, has been appointed to the post of Secretary of the Board of Railway Commissioners. Mr. J. N. Brown, of the North London Railway, has been appointed to the post of Secretary of the Board of Railway Commissioners. Alderman Hartley, of the North London Railway, has been appointed to the post of Secretary of the Board of Railway Commissioners.

Mr. Henry Dickie, chief rates assistant at Carlisle for the North British Railway, has been appointed to the post of Secretary of the Board of Railway Commissioners. Mr. Johnston, chief passenger assistant, occupied the chair, and in the absence of Mr. Brown, district traffic superintendent, subscribers by Mr. Blue, chief goods assistant.

Mr. A. V. Wilcox, who was for ten years employed in the railway service, has been appointed to the post of Secretary of the Board of Railway Commissioners. Mr. Percy A. Hay, secretary of the company, who, in leaving Mr. Wilcox the present, referred to his many good qualities in various departments. Mr. A. W. Breland, assistant engineering manager, has been appointed to the post of Secretary of the Board of Railway Commissioners.

Great Western Motor Wagon Experiments. The Great Western Motor Wagon Experiments have been successful. The motor wagon has been found to be a very useful vehicle for the transport of passengers and goods. The experiments have shown that the motor wagon is capable of carrying a large number of passengers and goods at a low cost. The motor wagon is also very convenient for the transport of passengers and goods between the stations and the suburbs. The motor wagon is a very useful vehicle for the transport of passengers and goods.

## RAILWAY NOTES.

renewables. Israel Union, March 1990. H. S. G. 1990. *Renewable Energy: A Guide to the Sources, Technology, and Economics of the Alternative Energy Sources*. London: Chapman and Hall. 1990. *Renewable Energy: A Guide to the Sources, Technology, and Economics of the Alternative Energy Sources*. London: Chapman and Hall.

[illegible][illegible]

Canadian Rugby Club, R. M. A. Co. (1902-1903), 1902-1903, 1903-1904, 1904-1905, 1905-1906, 1906-1907, 1907-1908, 1908-1909, 1909-1910, 1910-1911, 1911-1912, 1912-1913, 1913-1914, 1914-1915, 1915-1916, 1916-1917, 1917-1918, 1918-1919, 1919-1920, 1920-1921, 1921-1922, 1922-1923, 1923-1924, 1924-1925, 1925-1926, 1926-1927, 1927-1928, 1928-1929, 1929-1930, 1930-1931, 1931-1932, 1932-1933, 1933-1934, 1934-1935, 1935-1936, 1936-1937, 1937-1938, 1938-1939, 1939-1940, 1940-1941, 1941-1942, 1942-1943, 1943-1944, 1944-1945, 1945-1946, 1946-1947, 1947-1948, 1948-1949, 1949-1950, 1950-1951, 1951-1952, 1952-1953, 1953-1954, 1954-1955, 1955-1956, 1956-1957, 1957-1958, 1958-1959, 1959-1960, 1960-1961, 1961-1962, 1962-1963, 1963-1964, 1964-1965, 1965-1966, 1966-1967, 1967-1968, 1968-1969, 1969-1970, 1970-1971, 1971-1972, 1972-1973, 1973-1974, 1974-1975, 1975-1976, 1976-1977, 1977-1978, 1978-1979, 1979-1980, 1980-1981, 1981-1982, 1982-1983, 1983-1984, 1984-1985, 1985-1986, 1986-1987, 1987-1988, 1988-1989, 1989-1990, 1990-1991, 1991-1992, 1992-1993, 1993-1994, 1994-1995, 1995-1996, 1996-1997, 1997-1998, 1998-1999, 1999-2000, 2000-2001, 2001-2002, 2002-2003, 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2024-2025, 2025-2026, 2026-2027, 2027-2028, 2028-2029, 2029-2030, 2030-2031, 2031-2032, 2032-2033, 2033-2034, 2034-2035, 2035-2036, 2036-2037, 2037-2038, 2038-2039, 2039-2040, 2040-2041, 2041-2042, 2042-2043, 2043-2044, 2044-2045, 2045-2046, 2046-2047, 2047-2048, 2048-2049, 2049-2050, 2050-2051, 2051-2052, 2052-2053, 2053-2054, 2054-2055, 2055-2056, 2056-2057, 2057-2058, 2058-2059, 2059-2060, 2060-2061, 2061-2062, 2062-2063, 2063-2064, 2064-2065, 2065-2066, 2066-2067, 2067-2068, 2068-2069, 2069-2070, 2070-2071, 2071-2072, 2072-2073, 2073-2074, 2074-2075, 2075-2076, 2076-2077, 2077-2078, 2078-2079, 2079-2080, 2080-2081, 2081-2082, 2082-2083, 2083-2084, 2084-2085, 2085-2086, 2086-2087, 2087-2088, 2088-2089, 2089-2090, 2090-2091, 2091-2092, 2092-2093, 2093-2094, 2094-2095, 2095-2096, 2096-2097, 2097-2098, 2098-2099, 2099-2100, 2100-2101, 2101-2102, 2102-2103, 2103-2104, 2104-2105, 2105-2106, 2106-2107, 2107-2108, 2108-2109, 2109-2110, 2110-2111, 2111-2112, 2112-2113, 2113-2114, 2114-2115, 2115-2116, 2116-2117, 2117-2118, 2118-2119, 2119-2120, 2120-2121, 2121-2122, 2122-2123, 2123-2124, 2124-2125, 2125-2126, 2126-2127, 2127-2128, 2128-2129, 2129-2130, 2130-2131, 2131-2132, 2132-2133, 2133-2134, 2134-2135, 2135-2136, 2136-2137, 2137-2138, 2138-2139, 2139-2140, 2140-2141, 2141-2142, 2142-2143, 2143-2144, 2144-2145, 2145-2146, 2146-2147, 2147-2148, 2148-2149, 2149-2150, 2150-2151, 2151-2152, 2152-2153, 2153-2154, 2154-2155, 2155-2156, 2156-2157, 2157-2158, 2158-2159, 2159-2160, 2160-2161, 2161-2162, 2162-2163, 2163-2164, 2164-2165, 2165-2166, 2166-2167, 2167-2168, 2168-2169, 2169-2170, 2170-2171, 2171-2172, 2172-2173, 2173-2174, 2174-2175, 2175-2176, 2176-2177, 2177-2178, 2178-2179, 2179-2180, 2180-2181, 2181-2182, 2182-2183, 2183-2184, 2184-2185, 2185-2186, 2186-2187, 2187-2188, 2188-2189, 2189-2190, 2190-2191, 2191-2192, 2192-2193, 2193-2194, 2194-2195, 2195-2196, 2196-2197, 2197-2198, 2198-2199, 2199-2200, 2200-2201, 2201-2202, 2202-2203, 2203-2204, 2204-2205, 2205-2206, 2206-2207, 2207-2208, 2208-2209, 2209-2210, 2210-2211, 2211-2212, 2212-2213, 2213-2214, 2214-2215, 2215-2216, 2216-2217, 2217-2218, 2218-2219, 2219-2220, 2220-2221, 2221-2222, 2222-2223, 2223-2224, 2224-2225, 2225-2226, 2226-2227, 2227-2228, 2228-2229, 2229-2230, 2230-2231, 2231-2232, 2232-2233, 2233-2234, 2234-2235, 2235-2236, 2236-2237, 2237-2238, 2238-2239, 2239-2240, 2240-2241, 2241-2242, 2242-2243, 2243-2244, 2244-2245, 2245-2246, 2246-2247, 2247-2248, 2248-2249, 2249-2250, 2250-2251, 2251-2252, 2252-2253, 2253-2254, 2254-2255, 2255-2256, 2256-2257, 2257-2258, 2258-2259, 2259-2260, 2260-2261, 2261-2262, 2262-2263, 2263-2264, 2264-2265, 2265-2266, 2266-2267, 2267-2268, 2268-2269, 2269-2270, 2270-2271, 2271-2272,

**No Increase of Language Charges in Scotland.**—The Scotch Education Department have issued a circular to the effect that the Education Authorities are not to be required to pay more than the present rates for the use of the Scotch Language in the schools. The circular is dated 10th March, and is signed by the Secretary of the Scotch Education Department, Mr. James Buchanan.

**Irish Railway Receipts.** The following table shows the receipts of the Irish railways for the first six months of the years 1911, 1912, and 1913, compared with the receipts for the corresponding periods of the years 1910, 1909, and 1908. The receipts for the first six months of 1913 are preliminary figures, and are subject to revision. The receipts for the first six months of 1912 are also preliminary figures, and are subject to revision. The receipts for the first six months of 1911 are final figures.

**Report on an American Accident.** The report of the Inter-State Commission on the causes of the recent crash of the New York Central train at the New Rochelle station, N. Y., is published in the New York Times of March 10, 1906. The report is a long and carefully prepared document, and is a valuable contribution to the knowledge of the causes of railway accidents. It is a well-written and interesting document, and is a valuable contribution to the knowledge of the causes of railway accidents. It is a well-written and interesting document, and is a valuable contribution to the knowledge of the causes of railway accidents.

Proposed Mid-Hertshire Railway. The Mid-Hertshire and Northern Western Railway Company has undertaken to construct and maintain a railway from Hemel Hempstead to Rickmansworth, the cost of which is estimated at £1,100,000, and they also undertake to guarantee 4½ per cent. interest on a fourth of the capital, not

**The Carlisle Jury's Verdict.** Mr. J. H. Thomas, M.P., Special Agent in Charge of the New York Division of the Federal Bureau of Investigation, has just returned from a tour of duty in England, where he was in charge of the investigation of the Carlisle case. He has just returned to New York City, where he will be in charge of the investigation of the Carlisle case. The only men they heard was

and the women's act, but the latter bill has been delayed by the fact that the Government has been unable to get the driver and other Midland men worked. When Parliament meets, the Government will bring in a bill which would enable trade unions as trade unions to attend both Houses of Parliament. There are no requests as such, but the Government will do its best.

### OBITUARY.

At 10 o'clock Mr. John Manson, with the remains of the late Mr. John Manson were cremated, his death being caused by a fall from a railway train, on September 25, 1908. The funeral was held at St. Mary's Church, Kensington, on September 26, at 10 o'clock, the Rev. Mr. R. W. C. Adams, vicar of the parish officiating. The deceased was a member of the Bengal-Nagpur Railway, with which he had been connected since its formation nearly 30 years ago. He was a devoted and successful member of Indian circles as he was in the railway world, and his death, which occurred after a short illness though he had been ailing for some time, was a great loss to the community. The funeral services were held at St. Mary Abbot's Church, Kensington. The large assembly included, Mrs. J. Manson (widow), Claud and George Manson (sons), Miss Nannette Manson (daughter), Lady Fulton, Mrs. George Pringle, Mr. G. Rose, C.I.E., Colonel Ross, Major Penney, Mrs. Fulton, Dr. Pringle, Mr. J. Fulton, Mr. F. Palmer, Mr. C. Bamber, Mr. H. Kelway-Bamber, M.V.O., Mr. R. Blake, representing Sir John Wolfe Barry, K.C.B., Mr. T. Bashford (East India Railway), Mr. P. Birch, The Hon. T. W. and Mrs. Hewitt, Mr. Granville Mills, Mr. W. F. O'Donogue, Mr. H. C. Adams, The Bengal-Nagpur Railway Company was represented by Mr. G. Anderson, Mr. F. T. Rickards, Mr. F. G. Heaven, Mr. J. C. Lees, Mr. D. McGowan, Mr. J. W. Cooper and Mr. H. G. Dunn. Many choice floral tributes were sent.

Mr. Manson had a notable career in India as an engineer of the Public Works Department before he became connected with the Bengal Nagpur Railway in 1882. He served various railways, including the Bengal-Nagpur in 1888-89. When he retired from the department he became one of the company's engineers, and in 1905 he received the appointment of general manager which he held with great success. In 1911 he was appointed managing director of the railway. As a member of the board his ability and tact were warmly appreciated by his colleagues, as well as by the staff working under him, and his death is mourned by all who have worked with him or under him during his long service for the Bengal-Nagpur Railway.

**PECKETTS' LOCOMOTIVES**

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ATLAS LOCOMOTIVE WORKS, BRISTOL.

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Builders of  
RAILWAY CARRIAGES,  
RAILWAY WAGONS,  
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*and every description of Rolling Stock.*

**MIDLAND WORKS, BIRMINGHAM,**  
and **Abbey Works, Shrewsbury.**

## RAILWAY STOCK AND SHARE LIST.

HOME RAILWAY ORDINARY STOCKS.

### Debenture Stocks.

[illegible]**Debenture Stocks** (continued).

	1	2	3	4
1. <i>Pinus strobus</i> L.	1	1	1	1
2. <i>Pinus resinosa</i> A. Mill.	1	1	1	1
3. <i>Pinus canadensis</i> (Mill.) B.S.P.	1	1	1	1
4. <i>Pinus strobus</i> L.	1	1	1	1
5. <i>Pinus strobus</i> L.	1	1	1	1
6. <i>Pinus strobus</i> L.	1	1	1	1
7. <i>Pinus strobus</i> L.	1	1	1	1
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80. <i>Pinus strobus</i> L.	1	1	1	1
81. <i>Pinus strobus</i> L.	1	1	1	1
82. <i>Pinus strobus</i> L.	1	1	1	1
83. <i>Pinus strobus</i> L.	1	1	1	1

### Preference Stocks.

Alfred D. 2d and Prof. A. 1311	97	119
D. 4 1/2 2d Prof. B. 1311	97	83
Bar. 1311	117	119
D. 1311	93	93
D. 1311	95	99
D. 1311	97	97
D. 1311	94	94
D. 1311	98	98
D. 1311	95	95
D. 1311	96	96
D. 1311	97	97
D. 1311	98	98
D. 1311	99	99
D. 1311	100	100
D. 1311	101	101
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D. 1311	140	140
D. 1311	141	141
D. 1311	142	142
D. 1311	143	143
D. 1311	144	144
D. 1311	145	145
D. 1311	146	146
D. 1311	147	147
D. 1311	148	148
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### Preference Stocks—

(continued).



## RAILWAY STOCK AND SHARE LIST.

### Colonial Railways.

### Foreign Railways

CLOSING PRICES.			NAME.			CLOSING PRICES.		
Yesterday.	Last Week.	A Year Ago.	Yesterday.	Last Week.	A Year Ago.			
Alameda & Pacific Ry. Ist Mt. Bds.	97	97	99	101	103			
Alameda & Pacific Ry. Gen. Bds.	81	85	91	92	99			
Atlantic & N.W. Pac. Gen. Ist Mt.	109	109	109	111	111			
Atchafalaya & N.W. Pac. Ist Mt. Bds.	97	97	97	98	98			
Do. 2d Mt. Bds.	97	97	97	98	98			
Buffalo & Lake Huron, Gen. Bds.	111	112	112	121	123			
Calgary & Edmonton, 4% Cons. Bds.	82	82	82	84	89			
Can. Pac. Ry. 1st Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 2d Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 3d Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 4th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 5th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 6th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 7th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 8th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 9th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 10th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 11th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 12th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 13th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 14th Mt. Bds.	82	82	82	84	89			
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Can. Pac. Ry. 173rd Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 174th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 175th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 176th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 177th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 178th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 179th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 180th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 181st Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 182nd Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 183rd Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 184th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 185th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 186th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 187th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 188th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 189th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 190th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 191st Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 192nd Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 193rd Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 194th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 195th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 196th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 197th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 198th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 199th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 200th Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 201st Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 202nd Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 203rd Mt. Bds.	82	82	82	84	89			
Can. Pac. Ry. 204th Mt. Bds.</								

## OFFICIAL TRAFFIC RETURNS.

<b>Barry.</b>			<b>Great Northern (Ireland).</b>			<b>Metropolitan.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	11,527	12,127	Passengers, etc.	2,450	2,140.35
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	12,527	13,127	Total for week	3,450	3,140.35
Aggregate for 39 weeks	854,145	854,145	Aggregate for 39 weeks	45,527	45,527	Aggregate for 39 weeks	7,450	7,140.35
Miles open	65	65	Miles open	65	65	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>Caledonian.</b>			<b>Great North of Scotland.</b>			<b>Metropolitan District.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	26,730	26,890	Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	27,730	27,890	Total for week	2,000	2,000
Aggregate for 39 weeks	3,869,600	3,558,900	Aggregate for 39 weeks	1,111,414	1,111,414	Aggregate for 39 weeks	12,355	12,355
Miles open	1,114	1,114	Miles open	1,114	1,114	Miles open	25	25
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>Cambrian.</b>			<b>Great Southern and Western.</b>			<b>Midland.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	21,927	21,927	Passengers, etc.	2,450	2,140.35
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	22,927	22,927	Total for week	3,450	3,140.35
Aggregate for 39 weeks	854,145	854,145	Aggregate for 39 weeks	854,145	854,145	Aggregate for 39 weeks	7,450	7,140.35
Miles open	28	28	Miles open	1,114	1,114	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>Central London.</b>			<b>Great Western.</b>			<b>Midland Great Western of Ireland.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	152,000	145,000	Passengers, etc.	1,000	1,000
Goods, etc.	1,000	1,000	Goods, etc.	155,000	150,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	167,000	155,000	Total for week	2,000	2,000
Aggregate for 39 weeks	218,730	218,730	Aggregate for 39 weeks	11,397,000	10,510,000	Aggregate for 39 weeks	558	558
Miles open	65	65	Miles open	65	65	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>City and South London.</b>			<b>Highland.</b>			<b>North British.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	53,643	49,014	Passengers, etc.	2,450	2,140.35
Goods, etc.	1,000	1,000	Goods, etc.	5,230	5,230	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	58,873	54,244	Total for week	3,450	3,140.35
Aggregate for 39 weeks	854,145	854,145	Aggregate for 39 weeks	2,000,000	2,000,000	Aggregate for 39 weeks	7,450	7,140.35
Miles open	74	74	Miles open	4924	4924	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>Dublin and South Eastern.</b>			<b>Hull and Barnsley.</b>			<b>North Eastern.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	2,450	2,140.35	Passengers, etc.	2,450	2,140.35
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	3,450	3,140.35	Total for week	3,450	3,140.35
Aggregate for 39 weeks	854,145	854,145	Aggregate for 39 weeks	854,145	854,145	Aggregate for 39 weeks	7,450	7,140.35
Miles open	160	160	Miles open	93	93	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>Furness.</b>			<b>Lancashire and Yorkshire.</b>			<b>North London.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	2,450	2,140.35	Passengers, etc.	2,450	2,140.35
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	3,450	3,140.35	Total for week	3,450	3,140.35
Aggregate for 39 weeks	854,145	854,145	Aggregate for 39 weeks	854,145	854,145	Aggregate for 39 weeks	7,450	7,140.35
Miles open	139	139	Miles open	93	93	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>Glasgow and South Western.</b>			<b>London, Brighton and South Coast.</b>			<b>North Staffordshire.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	2,450	2,140.35	Passengers, etc.	2,450	2,140.35
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	3,450	3,140.35	Total for week	3,450	3,140.35
Aggregate for 39 weeks	1,437,500	1,398,700	Aggregate for 39 weeks	1,437,500	1,398,700	Aggregate for 39 weeks	7,450	7,140.35
Miles open	47	47	Miles open	47	47	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>Great Central.</b>			<b>London Electric.</b>			<b>Rhymney.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	2,450	2,140.35	Passengers, etc.	2,450	2,140.35
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	3,450	3,140.35	Total for week	3,450	3,140.35
Aggregate for 39 weeks	4,482,000	4,200,800	Aggregate for 39 weeks	4,482,000	4,200,800	Aggregate for 39 weeks	7,450	7,140.35
Miles open	1,114	1,114	Miles open	1,114	1,114	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>Great Eastern.</b>			<b>London and North Western.</b>			<b>South Eastern and Chatham.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	2,450	2,140.35	Passengers, etc.	2,450	2,140.35
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	3,450	3,140.35	Total for week	3,450	3,140.35
Aggregate for 39 weeks	4,394,700	4,321,000	Aggregate for 39 weeks	4,394,700	4,321,000	Aggregate for 39 weeks	7,450	7,140.35
Miles open	1,114	1,114	Miles open	1,114	1,114	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		
<b>Great Northern.</b>			<b>London and South Western.</b>			<b>Taff Vale.</b>		
Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.	Week ending Sept. 28	1913.	1912.
Passengers, etc.	21,145	21,491	Passengers, etc.	2,450	2,140.35	Passengers, etc.	2,450	2,140.35
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	22,145	22,491	Total for week	3,450	3,140.35	Total for week	3,450	3,140.35
Aggregate for 39 weeks	4,981,300	4,537,000	Aggregate for 39 weeks	4,981,300	4,537,000	Aggregate for 39 weeks	7,450	7,140.35
Miles open	1,114	1,114	Miles open	1,114	1,114	Miles open	65	65
Inc. this week, £1,150			Inc. this week, £1,150			Inc. this week, £1,150		

NOTES AND EXPLANATIONS.—The figures in this table are taken from the official returns of the railways, and are not necessarily the same as those published in the Railway Times. The figures are given in pounds sterling, and are not necessarily the same as those published in the Railway Times. The figures are given in pounds sterling, and are not necessarily the same as those published in the Railway Times. The figures are given in pounds sterling, and are not necessarily the same as those published in the Railway Times.



\* In 1990, the total foreign receipts of the two companies were \$1.5 million in Bolivia and \$1.2 million in Mexico.



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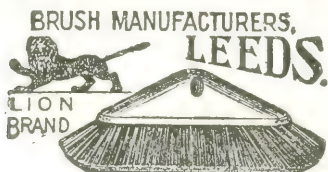
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ACID SIEMENS STEEL LOCOMOTIVE CARRIAGE AND  
WAGON TYRES AND AXLES OF HIGHEST GRADE



1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26



Buenos Ayres Western Company will submit at the forthcoming general meeting a resolution to increase the capital from the £24,000,000 to £26,000,000. It is consoling in these times to learn, however, that there is no intention of making any issue until next year, and then only a portion of the two millions created will be required. In the past year, however, the capital expenditure of the two companies has been very heavy, that of the Buenos Ayres Western Company having exceeded £1,830,000, whilst that of the Buenos Ayres Great Southern Company during the year was nearly 2½ millions sterling.

### THE ACCIDENT ON THE NEW HAVEN RAILWAY.

Surely one of the most remarkable documents in modern railway history is a report which has just been issued by the American Inter-State Commerce Commission on a disaster which occurred on the New York, New Haven and Hartford Railroad, near North Haven, Connecticut, on September 2 last, causing the death of 21 passengers and injury to many others. A train which had been brought to a stand was run into from behind by another train. The Commissioners find that the immediate cause of the accident was the failure of two enginemen, a flagman, and a conductor to perform their respective duties; they also find that the signalling system was defective. But this is the least of the matter. The Commissioners condemn the whole administration of this important railway from the directors downward. Rules were made for employees, but no adequate steps were taken to enforce them. Consequently discipline had become weak and ineffective. High speed was habitual over the section where the accident happened, requiring the most modern system of signals which had not yet been installed, and the closest supervision of their efficient working. The Commissioners take strong views on the duties of railway directors, and they point out that the Government has the power by legislation, if this railroad will not exercise its own authority, to compel the safeguarding of traffic over this line. Safety of operation should not, the Commissioners think, be left entirely to the discretion of any railroad, but would seem to be a subject over which Congress might well exercise its full authority. It is safe to say that if such a report could ever justly be made in connection with a British railway there would be general public excitement and a demand for an immediate revolution as to the power of the State over railway management. The report is exhaustive in detail, and is of much interest to railway officers everywhere. There is, however, much to be said for the railway company, to which the other parties have given too little attention. For some time past they have been making efforts to remedy the "three-comp" model in the report. A new president has recently been appointed, and this, it is hoped, will bring about many changes. The greatest difficulty appears to be that of enforcing discipline upon employees. The "three-comp" model in the report. American opinion has so far taken a mild and the tyrannical action of the so-called Brotherhood, or union. That opinion seems to think it better that the railway employee should be free and independent, than that there should be safety on the railways. The call of the companies, we are informed, is that it should be possible more readily to secure the legal punishment for the disobedience of orders resulting in death or injury to others. While the means exist for prosecuting a man who brings about a fatal accident by his wilful disregard of rules, it has been found extremely difficult to secure conviction. In this country no such difficulties exist. The American railway companies say

they want public sympathy to enable them to enforce discipline. That presumably means to back them up should a strike occur. In any case resolute endeavour both to please the public and to discipline the employees must go on, and it will in turn bear its fruit. Meanwhile, the railways are not in an enviable position, as the public on the one hand and their employees on the other are unceasing in their demands. The only remedy appears to be to encourage that "Safety First" movement which has already been so successful on many of the American lines. Accidents have been reduced to a remarkable extent, and the railwaymen are being gradually educated to realise that the enforcement of discipline is not an attribute of tyranny but is absolutely necessary not only in the interests of the public, whose servants they are, but also in their own. They are beginning to see that any laxity in carrying out rules and any weakness in enforcing penalties for disobedience can only result in such disastrous consequences as called forth the Inter-State Commission's report. This, in our opinion, while justified in a great measure, does not make sufficient allowance for the great difficulties in properly carrying out their work common to so many railways in the United States—and elsewhere.

### AN EARLIER HOLIDAY SEASON.

Several proposals with an important bearing upon railway traffic have been tabled during the past week. The Commission appointed to inquire into the period and extent of the Law Courts Vacation has recommended the fixing of the Easter recess for the third Monday in April and the Whitsun holidays for the second Monday in June. We have only to recall that the system of a movable Easter frequently results in the first Bank Holiday of the year falling so early that it is spoilt by inclement weather to show that a fixed Easter must result in an extension of railway travelling. With the feast always coming a month later than it did this year, when most dismal weather prevailed and people were debarred from travelling, there would be a standing temptation to a larger number of traders to indulge in four days' relaxation. A second proposal which has claimed public attention this week is that of beginning the holiday season in June instead of in August, and popularising British health resorts. The attainment of the first half of this propaganda, which was submitted to a conference attended by the representatives of a hundred health and pleasure resorts, of the Franco-British Travel Union, and of the Early Closing Association, held on Thursday in London, would alone prove of incalculable advantage to railway companies. Under the present system, or want of system, holidays are crowded into six weeks in August and September, with the result that the rolling stock is insufficient at times to carry the traffic, passengers are herded together in trains and lodgings, the life of old coaches is unduly prolonged, railway employees are subjected to a strain which is not conducive to smooth handling of traffic, and the companies lose a good deal of patronage from school treats and picnic parties because of their inability to provide special trains. The hope was expressed at the conference that the railway companies would co-operate with the committee who have been appointed to carry the various resolutions into effect. That assistance will readily be forthcoming, for the idea of putting the holidays forward emanated from the general manager of the Great Eastern Railway early in the current year, and was supported at the time in these columns. It has since been taken up by a daily newspaper as its own original idea—one likely to produce a number of page advertisements. All the help that the newspapers can give will be necessary in the task of inducing schools to start their holidays not later than the last week in June, and individual employers and companies to arrange for earlier holidays for their employees.



Pressure on Members of Parliament should secure the passage next Session of the Health Resorts Advertising Bill, permitting local authorities to spend the proceeds of a penny rate for that purpose, as is already allowed in Ireland. Railway companies with their well-tried advertising organisations ought to be able to do much to promote the last item in the programme, viz., co-operative advertising in the Colonies, in America, and on the Continent by British resorts. In this matter Great Britain has a great deal to learn from a movement already in existence in Belgium and France, which has been referred to in our columns.

## MONEY AND STOCK MARKETS.

SETTLEMENT DAYS.

CONSOLES. WEDNESDAY, NOVEMBER 5.

Continuation Days.		Ticket Days.		Pay Day.
Mines .....	Oct. 10	Mines .....	Oct. 13	Oct. 15
General .....	" 13	General .....	" 14	
Mines .....	" 27	Mines .....	" 28	Oct. 30
General .....	" 28	General .....	" 29	
Mines .....	Nov. 10	Mines .....	Nov. 11	Nov. 13
General .....	" 11	General .....	" 12	

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Same Week Last Year.
Bank's Coin and Bullion	£13,12,131	£17,597,823	£17,913,395
Total Reserve .....	24,400,000	29,412,378	27,702,500
Proportion of Reserve to Liabilities .....	51.0 p.c.	32.25 p.c.	18.81 p.c.
Notes in Circulation .....	42,210,025	42,809,149	42,911,125
Bank Rate* .....	5 p.c.	5 p.c.	4 p.c.
Open Market Discount .....	4 p.c.	4 p.c.	3 p.c.
Bankers' Clearing House	£3,274,000	£7,122,000	£7,122,000
Silver Bars, per oz (spot)	28 1/4	28 1/4	28 1/4
Consols (account) .....	7 1/2	7 1/2	7 1/2
French 3 per cent. (acc)	8 1/2	8 1/2	8 1/2
Paris Cheque exchange .....	25 1/2	25 1/2	25 1/2
New York 60 days ditto .....	\$4.81	\$4.82	\$4.82
Rio de Janeiro exchange .....	10 1/4	10 1/4	10 1/4
Valparaiso 60-day exche .....	6 1/4	6 1/4	6 1/4
Calcutta transfers .....	Holiday	18. 4 1/4	18. 4 1/4
Hong Kong transfers .....	18. 1 1/4	28 1/4	28 1/4
Shanghai transfers .....	28. 3 1/4	28 1/4	28. 1 1/4

BANK RATE FLUCTUATION	3 1/2 per cent.	Jan. 10, 1910	4 per cent.	Feb. 15, 1911
1909 to 1913.	3	Feb. 10, 1910	4	Mar. 9, 1911
2 1/2 per cent. Jan. 14, 1909	4	Mar. 17, 1910	4	Sept. 20, 1911
2 " " Apr. 14, 1909	4 1/2	June 1, 1910	4 1/2	Aug. 8, 1912
3 " " Oct. 7, 1909	5	June 8, 1910	5	May 9, 1912
4 " " Oct. 14, 1909	4	Sept. 29, 1910	5	Aug. 9, 1912
5 " " Oct. 21, 1909	5	Oct. 29, 1910	5	Oct. 1, 1912
4 1/2 " " Dec. 3, 1909	4 1/2	Nov. 8, 1910	4 1/2	Apr. 17, 1912
4 " " Jan. 5, 1910	4	Jan. 27, 1911	4	June 10, 1912

The Board of Trade returns for last month show a disquieting decline in exports, which is none the less serious when examined as to quantities as distinguished from values. The most obvious explanation is that high rates for money have begun to exercise a restraining influence upon the flow of commodities from producer to consumer, but there are reasons for thinking that this cause is not yet sufficiently developed to account for the change and that the curtailment may be due to the interruption to business that has been brought about by the numerous labour disputes which have occurred during August and September. In that case the reduction in the rate of expansion which has taken place during the last year or two may be merely temporary. The continued demand for coin within the country rather supports this view. At this point in the year coin is usually returned to the Bank, but last week's statement shows another three-quarters of a million was absorbed by the provinces, and as a further sum in gold amounting to £1,200,000

was sent to the Bank by the Bank of India, the Bank of China, and the Bank of Japan, the total amount of gold and bullion declined by £1,885,000. The Reserve, however, is but £1,482,000 down, because the active note circulation contracted by £404,000. The reduction nevertheless leaves it over two millions below the level which obtained at the corresponding date of last year, when the Bank Rate was 1 per cent. less, so that rates of discount naturally tend to harden, and there is little indication that any relief is to be expected for the coming six months at least. Government disbursement in connection with dividend payments has reduced Public Deposits by £3,740,000 and this has enabled the market to reduce its indebtedness to the Bank to the extent of £2,677,000, as is seen in the reduction of Other Securities by this amount. At the same time, Other Deposits rose £1,385,000, and the Government probably borrowed on deficiency bills to the extent of over a million, since Government deposits are higher by £1,200,000. As the result of all changes the ratio of Reserve to the liabilities of the Bank is about half a point lower at 52 1/4 per cent. On the Stock Exchange business has gone from bad to worse. The brokers are wondering why there is so little for them to do when the trade of the country is still brisk, if not rapidly expanding. Some blame the new rules relating to commissions recently brought into force, some the baleful influence of recent legislation. None apparently remember that they have for many months been tying up all the spare cash their clients have to place at their disposal in new issues that move slowly if at all. The House generally makes a good thing out of fresh issues of capital, and also a steady income from the interchange of old, but if the first is overdone the other must necessarily suffer. Again, not only are commissions higher than they were owing to the new rules, but the jobbers' turn is greater than it should be if frequent alterations of investment are to be encouraged among the public. No one likes to feel he has lost a whole year's dividend in the difference between the selling and buying price, and as big a margin as this is quite common among official quotations. Even in Home Rails, where closer prices are the rule, the total weight of charges on a single transaction is the reverse of enticing. What are we to think of Great Central "91" Pref. 71-74? Is it not an advertisement to warn off not only speculation but business of any kind. There is little to say of the week's trading. Little was done, and that under the depressing menace of new issues to come. There is no telling what the effect on prices may be when the full extent of the demand for fresh capital has been plumbed. Servia is said to have arranged with difficulty a temporary advance from a Paris bank by paying at the rate of 15 per cent. per annum.

Last Saturday, Canadas improved on a good traffic return, but the markets as a whole were very dull. Depression deepened on Monday, when Brazilian affairs gave grounds for anxiety. Canadas relapsed and Foreign Securities were ominously weak. The next day a partial rally took place during the afternoon, which checked the fall in Canadian and American stocks, but Home Rails and British Government securities were lower at the close. The improvement persisted during the early hours of Wednesday but later on Paris took fright at the trend of events in the Near East, and a general fall ensued, which continued on the following day, when there was scarcely a rise to be recorded throughout the official list. Home Rails, of course, fell with the rest, but there was no pressure to sell them.

On Friday the markets opened in a better tone, chiefly owing to a revival in United States securities. Brazilian stocks were supported and some rises were recorded in Home Rails and British Government securities, as well as in some of the colonial and foreign rails, but continued reports of failure in the issue of Canadian loans together with growing difficulties in France and Belgium with

falling prices in the markets, and prices of the principal commodities were lower at 72½, and a further fractional relapse in Home Rule was seen in the week ending the lowest figures quoted in recent years. Canada, after a preliminary rise, was lower. Traffic were also lower, and most of the Americans ended worse than they began. Much difficulty is understood to have been encountered in obtaining underwriting for the new City of St. Petersburg loan.

The movements of the week are set forth below:—

NAME OF STOCK.	PRICE.	NAME OF STOCK.	PRICE.
<b>British Funds.</b>		<b>American Railways.</b>	
Consolidated ... ..	4 3	At. & N. Pac. Common ...	11 1
Do. (acc.) 2½ per cent. ...	—	Baltimore and Ohio ...	11 1
<b>British Railways.</b>		Chesapeake and Ohio ...	11 1
Barry Deferred ... ..	—	Chicago & Western ...	11 2
Caledonian ... ..	11 1	Chicago Mtl. & S. Paul ...	11 4
Do. Pref. Con. Ord. ...	11 1	Denver & Rio Grande ...	11 4
Do. (acc.) 4 per cent. ...	—	Do. 1st Pref. ...	11 4
Central London ... ..	11 1	Erie Common ... ..	11 14
Do. Deferred ... ..	—	Do. 1st Preference ...	11 1
City and S. London ...	11 1	Do. 2nd Preference ...	11 1
Do. 1st Pref. Con. Ord. ...	—	Hudson River ... ..	11 1
Furness ... ..	11 1	Louisville & Nashville ...	11 14
Great Central ... ..	11 1	Missouri Pacific ... ..	11 1
Great Eastern ... ..	11 1	New York Central ...	11 1
Gt. Nthn. Pref. Con. Ord. ...	—	N.Y., Ont. & Western ...	11 1
Do. Def. Con. Ord. ...	—	Norfolk & Western ...	11 1
Great Western ... ..	11 1	Do. Preferred ... ..	11 1
Hull and Barnsley ...	11 1	Pennsylvania ... ..	11 1
Lancashire & Yorkshire ...	—	Reading Common ...	11 2
London, Br. & S. Coast ...	—	Southern Pacific Com. ...	11 1
Do. Deferred ... ..	—	Southern Common ...	11 1
London Chat. & Dover ...	—	Do. Preferred ... ..	11 1
London & N. Western ...	—	Union Pacific ... ..	11 3
London & S. Western ...	—	Do. Preferred ... ..	11 2
Do. Def. Con. Ord. ...	—		
Metropolitan ... ..	11 1	U.S. Steel Corp. Com. ...	11 34
Metropolitan District ...	—	Do. 7 p.c. Cum. Pref. ...	11 21
Midland Def. Ord. ... ..	—	<b>Foreign Railways.</b>	
North British Pref. Ord. ...	—	Antofagasta Def. Ord. ...	11 21
Do. Def. Ord. ... ..	—	Argentine Gt. Western ...	11 2
North Eastern Cons. ...	—	Buenos Ayres & Pacific ...	11 1
North Staffordshire ...	—	Buenos Ayres Gt. Sthn. ...	11 1
South Lancr. ... ..	—	Buenos Ayres Western ...	11 1
Do. Deferred ... ..	—	Central Argentine ... ..	11 1
Taff Vale ... ..	11 1	Do. Deferred ... ..	11 1
		Cent. Uruguay of Mont. ...	11 1
Underground Electric ...	—	Cordoba Cent. Ord. ...	11 1
Do. 1st Pref. Con. Ord. ...	—	Do. 1st Pref. ... ..	11 2
Do. 6 p.c. Bonds ... ..	11 1	Costa Rica ... ..	11 2
		Cuban Central ... ..	11 2
<b>Colonial Railways.</b>		Leopoldina ... ..	11 2
Canadian Pacific ... ..	11 1	Mexican Ordinary ... ..	11 21
Grand Trunk of Canada ...	11 1	Do. 1st Pref., 8 p.c. ...	11 1
Do. 4 p.c. Guaranteed ...	—	Do. 2nd Pref., 6 p.c. ...	11 21
Do. 2nd Preference ... ..	—	Narrate Ordinary ... ..	11 1
Do. 2nd Preference ... ..	—	Ottoman (Smyrna to Aidin) ...	11 1
Do. 2nd Preference ... ..	—	Un. of Havana Ord. ...	11 1

### BANK RETURN.

THE following table shows the Bank of England for the week ended October 10, 1913.

STATE OF THE BANK OF ENGLAND.	OCT. 8, 1913.	INCREASE.	DECREASE.
RESERVE	£ 1,000,000,000	—	—
ISSUED	£ 1,000,000,000	—	—
PAID UP	£ 1,000,000,000	—	—
UNPAID UP	£ 1,000,000,000	—	—
RESERVE	£ 1,000,000,000	—	—
ISSUED	£ 1,000,000,000	—	—
PAID UP	£ 1,000,000,000	—	—
UNPAID UP	£ 1,000,000,000	—	—
RESERVE	£ 1,000,000,000	—	—
ISSUED	£ 1,000,000,000	—	—
PAID UP	£ 1,000,000,000	—	—
UNPAID UP	£ 1,000,000,000	—	—

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways for the week ended October 5, gives a total of £2,474,167, which was earned on 21,974 miles, being at the rate of £112 11s. 10d. per mile of line open. For the corresponding week of 1912, the receipts of the same lines amounted to £2,417,986, with 21,898 miles open, or £110 8s. 5d. per mile. Thus there was an increase of £56,181 in the receipts, an increase of 76 in the mileage, and an increase of £2 3s. 5d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £55,466 (or £2 8s. 1d. per mile) in the passenger receipts and an increase of £3,173 (or 1s. 5d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the forty weeks in the passenger receipts has been £2,747,084, while the aggregate increase in the goods traffic was £3,980,540. The aggregate receipts of the fifty railways for forty weeks (December 29 to October 5) amounted to £63,863,212, in comparison with £86,937,780 last year, an increase of £6,925,432, not including receipts from certain canals, etc.

### NEW ISSUE.

THE Government of New Zealand is offering £2,350,000 convertible debentures, bearing 4 per cent. interest, at the price of 20s. 6d. per £100. Interest is payable half-yearly at the Bank of England, on the 1st of February and 1st of August. The first coupon, representing three months' interest, being due next February. The money is required partly to reduce existing loans and partly for the use of public works, railways, and land settlement. It is a testimony to the present security of the Government of New Zealand, and the confidence of such a large body of investors in the Government of New Zealand, that these debentures, which are to be offered at a 4 per cent. rate, are so eagerly subscribed. A sinking fund is to be provided, and the loan is to be repaid by instalments on August 1, 1915, and the loan is to be repaid by instalments on August 1, 1915, and the loan is to be repaid by instalments on August 1, 1915.

### THE SEASON IN SCOTLAND.

MR. Wm. Deuchar, superintendent of the line Great North of Scotland Railway, presiding at October 3 at the annual tea, re-union and dance of the railway employees at Ballater, expressed his thanks for the honour done him in asking him to preside, and his pleasure at seeing so many present. He referred to the unusually heavy passenger traffic during the past season, and said the bi-weekly half-day excursions in particular had done exceedingly well. The railway company had also had a record season as regards motor traffic, and it was very satisfactory to be able to say that no accident involving third class passengers, which spoke volumes for the care and attention to duty displayed by the railway staff. Mr. Deuchar also referred to the long stay of the Count of Balmoral, which he characterised as a valuable asset to the district, and hoped that by continued attention on the part of the railway staff this satisfactory state of matters might be long continued. Referring to the near prospect of electric light for the burgh, he said, though not speaking with authority, he had every reason to believe that the railway company would at once take in the light, despite the fact that they had just introduced an electric light system.

Mr. Deuchar added that on one Saturday afternoon he had taken the trouble to count the number of passengers travelling by the 1.15 p.m. train from Aberdeen, and he had something like 1,000 people, a very large number to carry on one train.

**The Agitation for a Waterways Board.** A resolution was passed at the Association of Municipal Corporations, held at the London Convention on October 4, Mr. Neville Chamberlain, in a speech, supported the proposal to establish a Waterways Board, and for the purpose of the Waterways Board to be established, one grade of the London and North Eastern Railway to be transferred to the Board.

## A GREAT RECORD IN LOCOMOTIVE CONSTRUCTION.

Baldwin locomotive construction is able to substantiate itself and show that it is a household name in the railway world. It is the only American locomotive works which has built more than 40,000 locomotives, and it takes the occasion of the company having reached this great record of output to give some history of the Baldwin business, and a description of the fine machine which has the distinction of being the forty-thousandth locomotive turned out from the company's works. In American railway circles the name of Baldwin is what may be termed a household word, and all over the world it is well known.

The Baldwin works have been in continuous operation for 82 years. The first locomotive built in them was completed in 1832, when locomotive building was in its infancy, while No. 40,000 represents the latest type for high-speed passenger service. Apart from the development and improvement of types of engines produced, it is interesting to note the growth of output as time went on. It was not till 1861—thirty years after the founding of the works—that locomotive No. 1,000 was completed. No. 5,000 was built in 1880, and No. 10,000 in 1889. The acceleration of the expansion of the business is marked by the fact that No. 20,000 was built

Locomotive No. 40,000 is one of 30 similar engines built

Under present conditions, trains weighing in excess of 700

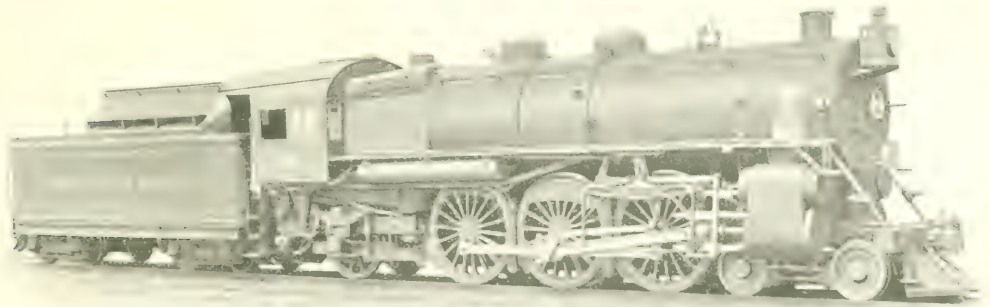
first essential in a locomotive intended for this classed service,

as the boiler, besides being of large dimensions, is equipped with a superheater and mechanical stoker. The boiler shell has a straight top, and the firebox is of the Belpaire type.

The superheater is of the Schmidt fire-tube type, as designed

of 32 elements, and these are located in as many 53 in. flues. Outside steam pipes convey the superheated steam from the smoke-box to the steam chests. The stoker is of the Crawford under-feed type, as developed by Mr. D. F. Crawford, general superintendent of motive power of the Pennsylvania lines. The fire-box is equipped with two longitudinal feed troughs. Coal is mechanically conveyed to the troughs, and is forced out over their tops into the fire-box by reciprocating plungers. The rocking grate bars are placed between the troughs, which are 32 inches apart, and also between the troughs and the sides of the furnace. The conveyor on the tender and the plungers in the fire-box are worked simulta-

Should the stoker become deranged while on the road the locomotive can be fired by hand. There are now on the



Forty-Thousandth Locomotive built by the Baldwin Locomotive Works.

for the Pennsylvania Lines West of Pittsburgh, and designated as class K-3-S. It is intended for heavy, fast passenger service, and is of the "Pacific" type, with three pairs of driving wheels, a four-wheeled leading truck, and a two-wheeled trailing truck. This wheel arrangement permits the use of a large boiler, with a wide and deep fire-box placed behind the driving wheels and over the trailing truck. The necessary steaming capacity for maintaining high speeds with heavy trains is thus provided; while at the same time sufficient weight can be placed on the driving wheels to develop a high tractive force without slipping.

At the Centennial Exhibition, held in Philadelphia in 1876, the Baldwin Locomotive Works exhibited an American type locomotive for the Pennsylvania Railroad, which was representative of the type of engine used in through passenger service at that time. A comparison of the leading dimensions of this locomotive with those of No. 40,000 shows in a striking degree what progress has been made. Such a comparison is presented in the following table:

service and under construction. The furnace equipment includes a security sectional arch, which is supported on water-tubes. This appliance compels the gases to take a more circuitous course to the tubes, thus allowing more time for combustion and aiding in the prevention of smoke. The arch at the same time becomes heated to a state of main-

tained. The steam distribution is controlled by 16 in. piston valves, which are driven by Walschaert's motion. The links and reverse shaft are supported on longitudinal bearers placed outside the leading driving wheels.

The frames are steel castings, measuring 6 ins. in width throughout the greater part of their length. The transverse bracing is unusually substantial. Broad steel castings are placed over the front driving pedestals, and between the second and third pairs of driving wheels. In addition the front and back deck plates, the guide yoke, valve motion bearer and furnace bearer cross tie, constitute effective transverse braces. The lower frame rails, between the main axles, are braced by four cross ties placed adjacent to the driving pedestals.

pattern; while the rear truck is of the two-wheeled round

The tender is carried on two four-wheeled trucks, which are of the equalised pedestal type with cast steel bolsters and forged steel wheels. The longitudinal main sills consist

A statement published in 1876 gave the weight of the heaviest through trains on the main line of the Pennsylvania system as 330 tons, exclusive of engine and tender; while the fastest trains at that time weighed less than 200 tons.



has deep sloping sides, and by this means the coal is automatically fed to the stoker conveyor. The coal capacity is unusually large, as approximately 17 tons can be carried

Difficulty has at times been experienced in operating large locomotives because the necessary rate of firing could not be maintained with hand labour. This difficulty the locomotive under notice has been specially designed to overcome; and with the aid of such appliances as the superheater, brick arch and stoker, it is capable of developing power in proportion to its size and theoretical capacity.

The principal dimensions of locomotive number 40,000

Length, overall	41 ft. 6 in.
Height, overall	14 ft. 6 in.
Valves, diameter	10 in.
Travel, head end	7 in.
Lead, crank end	1 in.
Boiler, diameter at first ring	70½ ins.
Thickness of waist plates	7 in.
Grate area	55.4 sq. ft.
Engine truck wheels	36 ins.
Locomotive wheels	60 ins.
Journals	10½ ins. by 15 ins.
Engine truck wheels	36 ins.
Locomotive wheels	60 ins.

### THE REVISED DEMURRAGE REGULATIONS.

As the result of the consideration given to the complaints made by traders the railway companies have issued revised regulations with regard to the demurrage allowance and charges on railway wagons. The exemption from demurrage at private sidings will be as follows:—Before conveyance, two days, instead of one, as first proposed, exclusive of the day upon which the loading is begun; and, after conveyance, three days instead of two, exclusive of the day of arrival. Traffic for shipment:—Before conveyance, two days instead of one, exclusive of the day upon which the loading is begun; after conveyance, at the port, four days, exclusive of the day of arrival, which is an increase of two days in respect of coastwise shipment. On the stock of the local company, loaded both in and out, the trader is allowed the sixth day before demurrage is chargeable, e.g., stock arriving on a Monday must be at the railway company's disposal for forward transit loaded not later than Saturday. The demurrage charges per day will be on ordinary wagons 1s. 6d. per wagon and 3d. per sheet; on high capacity wagons above 15 and not exceeding 20 tons carrying capacity, 2s.; above 20 and not exceeding 30 tons, 3s.; and above 30 tons, 5s. On specially constructed wagons the charges will be 3s. above 15 and under 20 tons carrying capacity, 6s. for 20 tons and under 30 tons, and 10s. for 30 tons and above.



Pennsylvania Limited Train—New York to Chicago—Drawn by Baldwin Locomotive

### THE FIRST DIESEL LOCOMOTIVE.

The completion of the first main line internal combustion Diesel locomotive may be regarded, says Mr. Percy R. Allen, in *Cassier's Engineering Monthly*, as an event of considerable importance in internal combustion engine circles. The engine was ordered some time ago by the Central Railway Department of the Prusso-Hessian State Railway, and was supplied by the Gesellschaft für Thermo-Lokomotiven of Ludwigshafen. The framework and body were built at Borsig's locomotive works, Berlin, but the Diesel engines and gearing connected with them were built at the Winterthur works of Messrs. Sulzer. Most other internal combustion locomotives that have been constructed have either transmitted the power to the wheels through gearing or have used some kind of automix system in which the engine is used to drive a dynamo, which in its turn works motors on the axles. In this case the connecting rods of the main engine act directly on two cranks on an intermediate crankshaft. These work the driving wheels by outside connecting rods, a similar arrangement to that now generally employed on many large electric locomotives. This, of course, necessitated the engines being of a directly reversible type, and although this introduced apparent complications in the valve-gear the designers consider that this is amply compensated for by the simplicity in the transmission.

## FISSURES IN RAILS.

Transverse fissures in rails having been found in the United States and Canada, the Committee on the subject has said that the American rail has too much carbon in it or is too hard, the object being to get long wear, but with the result that the rail is made too brittle. These allegations are made in the long report which has been issued by the Interstate Commerce Commission on a derailment which took place fully a year ago on the Louisville and Nashville Railroad, near Hays Mill, Alabama. The reports were prepared by Mr. H. W. Belnap, chief inspector of safety appliances to the Commission, and Mr. J. E. Howard, engineer-physicist to the Bureau of Standards. The latter investigated the broken rail which caused the accident. The track was laid with 111 lb. rails, single-spiked. The weight of the engine of the train was 94 tons, and the weight on the driving wheels was 50½ tons. The receiving end of the rail which failed remained intact for a length of 13 ft. 4 in. The leaving end was broken into a number of fragments. The rail was fractured across its entire section at 14 places. At 11 of those places the metal of the head displayed transverse fissures which ranged in length from 0.37 in. to 2 in.

The specification under which this rail was furnished required the following chemical composition:—

	Per cent.
Carbon .. .. .	0.55-0.68
Phosphorus .. .. .	(not over) 0.06
Silicon .. .. .	(not over) 0.20
Manganese .. .. .	0.80-1.10

It was stated that the following composition was attained:—

	Per cent.
Carbon .. .. .	0.57
Phosphorus .. .. .	0.057
Silicon .. .. .	0.008
Manganese .. .. .	0.88
Sulphur .. .. .	0.040

Analyses of the metal of this rail, however, showed a different content in respect to carbon than specified and reported as having been furnished. Analyses of chips taken out near the running surface of the head from the centre of the head and from the upper part of the web gave the following results:—

	Per cent.	Per cent.	Per cent.
Carbon .. .. .	0.88	0.85	0.84
Phosphorus .. .. .	0.014	0.014	0.014
Silicon .. .. .	0.14	0.14	0.14
Manganese .. .. .	0.68	0.67	0.67

Mr. Howard's report proceeds to note that it was a sound rail, referring to the quality of the metal, and to discuss the causes of the formation of fissures. In earlier periods of railway practice, the report says, rails of lower physical properties were used and failures of another kind were then prevalent. Cold flow of the metal occurred. With increase of wheel loads harder steels were introduced to check this tendency. While disturbance of the metal at the running surface of the head still continues to a certain extent, notwithstanding the greater hardness of rails of current manufacture, nevertheless the effect on surfacing, causing a rough track, has not been found objectionable from an operating point of view. But the formation of interior transverse fissures has made its appearance as a consequence, apparently, of these changed conditions.

Referring at length to the effects of stresses in the metal caused by heavy loads, the report says that experiments which were made nearly two decades ago showed the necessity for conducting observations in the track for ascertaining and defining the fibre stresses in rails due to given wheel loads. The moment of resistance of the rail and the tie spacing are not sufficient data on which to base computations for the reliable determination of the actual fibre stresses under given wheel loads owing to the yielding character of the roadbed, hence requiring an experimental determination of the fibre stresses in the track itself. Since those early tests were made wheel loads have been greatly increased and, also bearing on the case, wheel spacing has been changed. It can doubtless be said that definite information is practically lacking in respect to fibre stresses in rails which are developed by modern equipment, even under static conditions of loading where no obstacle exists for the acquisition of such data. Commendable

acquire reliable information upon the primitive physical properties of the materials made use of in track equipment, but years should not be allowed to pass without corresponding efforts being directed to the material after it reaches the track. Such a dearth of important information as pertains to service stresses in steel rails is probably without a parallel in the history of the materials of construction.

Mr. Howard arrives at the following conclusions:—

That the presence of interior transverse fissures in the rail under consideration was the cause of the derailment and wrecking of the train.

That 11 such fissures were displayed on fractured surfaces developed at the time of the derailment, and two additional fissures found in this rail.

That the sizes of the fissures ranged from 0.37 to 2 in. in length across the rail.

That they were located in the head of the rail on the gauge side or directly over the web, none being found on the outside of the head.

That the metal of the rail in other respects was structurally sound and of satisfactory quality and normal to steel in its chemical composition.

That the formation and successive development of these transverse-fissures, as a matter of opinion, was the direct result of overstraining loads, combined alternate repeated bending stresses, and intense wheel-contact stresses.

It appears furthermore that the carbon content of this rail was 23 per cent. higher than the upper limit of the specifications and 47 per cent. higher than the steel was reported, thus nullifying the value which might attach to the reported composition of the steel and giving such report a perfunctory character.

That the margin of strength and safety in rails cannot be known in the absence of information concerning the stresses to which they are subjected and that there is immediate and urgent need of instituting an inquiry into the magnitude of the stresses to which steel rails are subjected in the track.

That the prevention of derailments and the safety of railway travel will be aided and benefited by the careful determination and definition of the conditions which prevail in the track.

## REPORT ON A GREAT EASTERN COLLISION.

The Board of Trade has issued Colonel von Donop's report on the inquiry he held into the circumstances under which the collision occurred at about 10.20 p.m. on August 20 between a passenger train and a goods train, near Tottenham Hale Station, on the Cambridge main line of the Great Eastern Railway. Whilst the 10.5 p.m. express goods train from Spitalfields to Doncaster was standing at the home signal of the Tottenham South Junction signal-box, it was run into from the rear by the 10.7 p.m. down mail passenger train from Liverpool Street to Yarmouth. The speed of the mail train at the time of the collision was not great, but the brake-van at the rear of the goods train was completely demolished, and the three wagons in front of it were seriously damaged. The engine of the mail train was somewhat damaged, as also were two vehicles of that train. Two of the passengers in the mail train were badly injured, and 10 others with slight personal injuries.

who was in charge of the mail train, states that when passing through Clapton Junction he saw both the Clapton Junction home signal and the Copper Mill Junction distant signal, and he is positive that both these signals were lowered to danger; he did not see the Copper Mill Junction outer home signal, and he admits that when he reached the junction, which is situated between the outer and inner home signals at Tottenham

that he did not see the Copper Mill Junction outer home signal, but, as he had seen that the distant signal at Clapton Junction

Copper Mill Junction signals, it is, as stated by driver Swift, the distant signal fixed at Clapton Junction was 200 yds. distant, it necessarily follows, owing to the interval being that the outer and inner home signals at Copper Mill Junction must have been also off at that time. Owing, however, to the lock and block

...this line, it was practically impossible for those home signals to have been lowered as the goods train was at that time standing in the section between the Copper Mill Junction and the Tottenham South Junction signal-boxes; until those two home signals were both lowered the distant signal was locked at danger. In spite, therefore, of driver Swift's evidence, there is, in my opinion, not the slightest doubt that all those signals were at danger when the train passed them, and that this collision was therefore due to the fact of Swift having allowed his train to run past them whilst they were in that position. It is probable that he never noticed that the distant signal was at danger, but, even apart from that, it was his duty to have brought his train to a stand immediately he realised, as he admits that he did realise, that he had passed the outer home signal without seeing it.

"The evidence as regards the action of the fogging machine at the Copper Mill Junction inner home signal is contradictory. Signal lad Halcrow, who had been on duty at the Copper Mill Junction signal-box on the 20th, states that he had inspected the fogging apparatus about noon on that day, and that there were detonators in it at that time. Under the above circumstances it is difficult to resist the conclusion that the detonators were in the machine at the time that the engine of the mail train ran past it, and that they were duly exploded thereby. It, however, these detonators were exploded under the engine, Swift must have heard the explosion, and under those circumstances some explanation seems called for to account for his not having at once brought his train to a stand. "Swift's statement that he thought it was the Tottenham South Junction distant signal which he was passing at danger gives a clue to his actions. The low rate of speed at which the mail train was moving at the time of the collision points to Swift having been prepared to stop at the Tottenham South Junction home signal and it is therefore clear that his statement that he thought the distant signal was at danger when he passed it is correct. Previous to the accident, Swift was not aware that there was a fogging apparatus at the Copper Mill Junction inner home signal, so it is very likely that he thought that the explosion, which would have occurred a very short time before he reached the Tottenham Junction distant signal, was due to detonators placed on the line at that signal by a fogman to indicate to him that it was at danger and that he was to be prepared to stop at the home signal. This is, I think, the probable explanation of his not having brought the train at once to a stand on hearing the explosion. With reference to this matter it should be noted that the force of the collision pushed the engine of the goods train forward past the Tottenham South Junction home signal where a similar fogging machine was fixed; the evidence is conclusive that the detonators at that spot were duly exploded thereby. This collision must, I consider, be attributed solely to want of care on the part of driver Swift. The company inform me that in the face of this accident they propose to provide an additional fogging machine at the Copper Mill Junction outer home

With the land already in the possession of the company it is estimated that the scheme could be carried out at a cost of £50,000. It is stated that the Great Central Company look with favour on the proposal, and that to begin with they would, if they secured Parliamentary sanction, construct a single line from Guide Bridge to Rochdale. The line would link up the main lines to Yorkshire and Rochdale, and make an important connection at Guide Bridge with the lines running to the South of England and also in the direction of Manchester.

#### DEVELOPMENT COMMISSION AND RURAL TRANSPORT.

The third annual report of the Development Commissioners states that for some of the most important purposes mentioned in the Act hardly any schemes have been put forward. They refer particularly to rural transport, afforestation, land drainage and reclamation, and the improvement of inland navigations. The main reason for this unexpected state of things is, in their opinion, the fact that no advances can legally be made from the Development Fund to individuals or to companies trading for profit. This difficulty might to some extent be overcome consistently, they think, both with the letter and the spirit of the Act, by the formation of national associations (not trading for profit) to receive and administer advances from the fund, and now that three years have passed without any increase in the number of schemes spontaneously submitted for these purposes they feel that the position ought not to be left unaltered without an effort to change it. Only three applications were received during the year 1912-13 under the head "The Improvement of Rural Transport." One of these applications related to the establishment of a motor car service, the other two related to light railways. But although the formal applications received were so limited in number the Commissioners have reason to think that some important schemes are likely to be brought forward shortly, and they have therefore thought it advisable to take steps for the examination of one main question—viz., the relative merits of light railways and the various forms of motor transport by road. They have accordingly appointed an engineer familiar with commercial motor transport to report in a specific case on the relative merits, particularly from a financial point of view, of light railways and motor transport. His report had not been received by the end of the year.

As the amount hitherto appropriated by Parliament to the fund is £2,000,000, and the advances recommended up to March 31 last were £725,988, it might appear that the sum available to assist new schemes is something over £2,000,000. That, the Commissioners state, is not the case. Parliament originally provided the fund with an income for five years, and the Commissioners do not feel justified in anticipating that before the end of that period it will vote further sums. They have therefore decided to endeavour so to regulate the expenditure that the amount now available will suffice at least until March 31, 1916, and if possible leave some balance in hand on that date.

#### LIGHT RAILWAY SCHEMES IN SCOTLAND.

A meeting was recently held at Aberdeen of the executive committee of the Association for the Development of the Counties of Aberdeen, Banff, and Kincardine, the association having been formed for the purpose of securing grants from the Development Commissioners for the construction of a light railway between Skene and Echt and Aberdeen, between Bervie and Stonehaven, and the scheme to connect the terminus of the Great North of Scotland Railway Company's line at Alford with the Strathdon district. As it was found that the North British and Caledonian Railway Companies were not yet in a position to assist the committee in the preliminary surveys for the Bervie and Stonehaven line, the other two schemes were first considered by a sub-committee, along with the manager and directors of the Great North of Scotland Railway Company. Of those two schemes the Strathdon scheme seemed to the sub-committee to be the one to which they should first direct their attention, and this view was confirmed by the executive, who passed the following resolution: "That the executive approve of the recommendation of the sub-committee that the Alford and Strathdon schemes should be the first to engage the attention of the association, and direct that steps be taken to forward this scheme, and if found desirable, to approach the Development Commissioners with a view to obtaining a grant for the construction thereof."

#### SUGGESTED GREAT CENTRAL RAILWAY EXTENSION.

When the Great Central Railway Company was formed, it was intended that the line should be extended to Manchester, little or nothing has, it is stated, been done to

taken from the district by motor and other vehicles, and



## NEW RAILWAYS AND ROLLING STOCK.

31 next recently waited upon the Railway Clearing House with reference to the question of securing an extension of the period in which such vehicles may be used. It was made clear that an extension would be impossible to obtain, and that the railway companies have given their employees instructions to stop all dead buffer wagons at midnight on December 31. Only those wagons which are empty and are returning home will be allowed to proceed, while those which are loaded will be held up until instructions are given as to where they are to be sent. The demand for the hire of wagons increases daily, and firms which let out stock are declining to enter into contracts for two years, and are holding out for a period of four years. It is computed that for the whole of the country, excluding Ireland and Scotland, the number of dead buffer wagons runs to 30,000 or 40,000.

**PARAGUAY.** The Paraguayan Government has granted an extension to December 31 to the North East Paraguay Railway Company for the presentation of plans and specifications.

**PARAGUAY N. E. RAILWAY.** The Railway Servancy Commissioners have requested the North Eastern Railway Company to commence without delay its undertaking to construct the railway between Stockton and Billingham Beck, and to complete it within two years.

**SCOTTISH LIGHT RAILWAYS SYNDICATE.**—Plans have been submitted to the local authorities by the Scottish Light Railways and Development Syndicate, Ltd., for the construction of a railway from a point over the Buchan line between Maud and Strichen to the vicinity of Turriff. It is proposed that the line should, as far as possible, run alongside the main road.

**PROPOSED TRANS-PERSIAN RAILWAY.**—Two meetings of the Société d'Etudes for the Trans-Persian Railway, held in Paris on Saturday, were attended by representatives both from London and St. Petersburg, in order to review the situation in regard to the proposal for connecting the Russian and Indian railway systems by means of a line through Persia. A general discussion took place concerning the Russian proposals for railways in the North of Persia, but with reference to the south no definite scheme has been put forward.

**BRITISH GUIANA RAILWAY.**—A project of a railway to the hinterland of British Guiana is under consideration. Sir Walter Egerton, the Governor, has gone on an expedition to the Brazilian frontier extending over sixty-five days, in which he is accompanied as adviser by Mr. L. M. Bland, Chief Construction Engineer of the Northern Nigerian Government. Publication has been given to three schemes which have been submitted to the Government for their consideration. The Earl of Glasgow is the author of one scheme, the British Guiana Constructors, Limited, have submitted another, while the third emanates from Mr. A. A. Rutis, Imperial Consul-General of Persia for Pennsylvania and New Jersey, U.S.A.

**LONGEST RAILWAY BRIDGE IN THE WORLD.**—It is expected that next year a commencement will be made with the construction of the railway bridge between Rugen and the mainland, which will be the longest in the world, 3,580 yards. The cost of the work is expected to amount to £1,000,000. It would appear to be rather the success of the train ferry from Sassnitz to Trelleborg, in Sweden, than the ever-increasing popularity of Rugen as a holiday resort, which has led to the scheme for erecting the viaduct. Originally it was estimated that the number of railway passengers to or across the island would reach 100,000 only in 1915, but so popular has the route proved that this figure was almost attained last year. The bridge, it is said, is to include a track for pedestrians, though none for road traffic. It will substantially shorten the journeys between Berlin and Hamburg on the one hand, and Stockholm and Christiania on the other.

**ARGENTINE.** The Public Works Committee of the Senate have reported on the following Bills: Prologue to M. G. Paunero to sign the contract and make the guarantee deposit for the railway concession granted to him for a line from Mar del Plata to the Chilean frontier. A concession to Alonso Guerdile and Co. for a railway in the Misiones territory, starting near the port of Pampa Peray, commonly known as Port

Américo and terminating on the frontier of Brazil. A request asking for leave to enter the port of the capital and construct a terminal goods station. This project authorises Govern-

ment to construct goods lines which will be used for goods trains and will incorporate with the existing neutral lines of the port. Government is authorised to contract for the construction of these lines with the Pacific Railway Company and the cost of same, with-

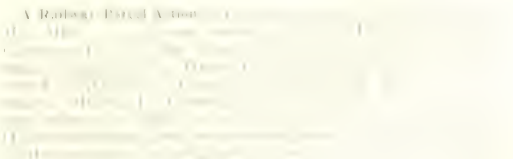
charges it has to pay for the use of the lines. The same report authorises the Central Argentine Railway, as also the Pacific, to construct goods stations near the south basin on land owned by them; the line to be a high level one starting from in front of Calle Maipú. The Buenos Aires Western Railway recently applied to Congress for a modification of Law No. 8367 for a railway to the Pampa Territory, whereby the line should terminate in lot 19 fraction A of section 2 of the Territory. This modification was approved by the Senate, but the Public Works Committee now require a new modification to be inserted whereby the line would be required to reach its terminal *via* Sirasol. This would require, according to the railway company, an additional length of 1½ kilometres, at an extra cost of about \$300,000. Although protests were presented to the chamber, the variation proposed by the Committee was passed on September 15.

## THE PROPOSED "ALL-RED" ROUTE.

Representatives of the All-Red Steamship Company at Ottawa are urging the Government to guarantee bonds, with a view to the establishment of a shipping service between Cape Charles, Quebec and Galway. The company's scheme provides for only two nights on the ocean between Galway and Cape Charles, and for a railway from Cape Charles to Quebec. Reuter's Agency states that the Government has not yet dealt with the project.

It is understood that the headquarters of the service on this side of the Atlantic will ultimately be Blacksod Bay, Mayo, to which a railway is about to be laid from Collooney Junction, Sligo. Harbour works are proposed to be carried out at Cape St. Charles, in Southern Labrador, an ice-free port, under 1,000 miles from the West Coast of Ireland, while the scheme will also involve the construction of another Canadian trans-continental line and the running of express steamers between Vancouver or Prince Rupert and Auckland and Sydney, N.S.W. If the scheme is carried out it is claimed that passengers will be able to reach Winnipeg from London in five days, with an additional sixteen days to Sydney. The quickest journey to the New South Wales port now occupies twenty-eight days, *via* San Francisco.

Messrs. Perry and Co., Ltd., of Bow and Victoria Street, Westminster, the firm who built the Bakerloo Railway, are the contractors for the railway between Collooney Junction, near Sligo and Blacksod Bay. This railway will link up the natural harbour of Blacksod Bay with Belfast. The Dominion end of the steamship service will be the nearest port at Cape St. Charles, Labrador, from which point it is proposed to construct a railway to link up with the trans-continental systems. A charter has already been granted to the line as far as the eastern boundary of Quebec.



## MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

Colombian Northern Railway

Oct.		Delegata Railway			
		Buenos Ayres Western Railway			
		Central Uruguay Railway or Mont Video Railway			
Oct.		Central Uruguay Northern Extension Railway			
		Central Uruguay Eastern Extension Railway			
Oct.	21 (Tues.)	Nizam's Guaranteed State Railways (Debenture)			
	22 (Wed.)	Buenos Ayres Great Southern Railway (Annual)			
		United Railways of the Havana and Regla Warehouses (Annual, Winchester House)			
		Grand Trunk Railway			
Oct.		San Paulo Brazilian Railway			

## DICK, KERR &amp; CO., LTD.

interests in many varied branches and all over the world, he

especially in view of the labour, financial and political complications existing at the present time. In the balance-sheet there were some changes. The item of "capital expenditure at the works, including goodwill and patents," showed a

which the depreciation exceeded the additional capital expenditure for the year. No doubt they would regard that as a satisfactory feature in the accounts. Although they had been obliged to face a considerable diminution in their profits in recent times, the directors had consistently adhered to what they believed to be a sound and conservative policy in

and work in progress," which referred only to the manu-

over last year. This was the high water mark on this account in the history of the company, and although it looked up he regarded as a favourable sign in other respects. Taking the

on contracts together, these assets had increased to the extent of £71,713 as compared with last year. The only other asset calling for explanation was that of "sundry

This was accounted for by the sale of certain securities and

was also to a large extent set off by the increase in the amount of cash balances. Turning to the liabilities side of the balance-

they would see that the creditors, bills payable and loans other than bankers' loans showed an increase of about

already alluded to in the corresponding assets on the other side—namely, debtors, bills receivable and contract balances. There was, therefore, a net increase of assets over liabilities on these accounts of nearly £60,000. Then they had to take into consideration the increase in the value of their stocks and work in progress—namely, £31,000. There were, of course, other fluctuations, such as the reduction in the amount of the debenture stock, which was being gradually redeemed, but they would see that the banker's loan was accounted for by the increase in the amount of capital they had been called upon to provide in the shape of increased stocks and increased debtors. The demand for extra working capital was the result of expansion in their manufacturing branches. He knew of no branch of the heavy engineering trades in which the custom in respect to payments was so severe. Progress through the shops averaged at least twelve months, and, in addition, they had often from two to three months expended in shipment to destination, and the custom of the trade was that the first payment was made upon delivery at destination. They were endeavouring, with some success, to get a modification of this and other onerous conditions. They were extremely busy in the works; in fact, they had never had more work than at the present time, and he hoped and believed that it would prove to be more satisfactory work than they had had for a very long time. With such a large amount of work in hand and under contract the weekly expenditure in wages and material was very large and a large amount of capital was consequently locked up. The board considered that the business as a whole was most satisfactory. They had naturally to look forward to labour troubles, which abounded on every hand at the present time, and although they did not anticipate trouble they hoped that if any difficulty in that respect should arise they would be able to deal with it in the interests of all concerned.

Mr. R. H. PRESTWICH (Deputy-Chairman) seconded the motion.

Mr. J. B. CONNAN said that the progress made by the company during the past 12 months reflected the greatest credit on the board. They all knew that competition was keener and the cutting of prices as acute as ever, but notwithstanding that there was an improvement in the net profits of very nearly £30,000. It was satisfactory to learn from the Chairman that they had more work in hand at the present time than they had ever had in the history of the company. He thought the Chairman might have laid some stress on the statement of the auditors that the plant and machinery had been amply

Mr. A. L. ASHVELL remarked that the information contained in the report and accounts was rather meagre. The ordinary shareholders had received no dividend for the last two years, and from their standpoint the position was not very satisfactory. The Chairman had stated that there was more work in hand than ever before, but he had failed to give them any indication as to the prospect of a dividend on the ordinary shares. He wished to ask what amount represented the goodwill in the first item on the assets side of the balance-sheet.

The CHAIRMAN, in reply, said that of the item of capital expenditure at the works, including goodwill and patents, the directors of the company probably held one-half of the ordinary share capital and they regretted extremely the fact that they were not receiving a dividend. As a result of hard work, they had succeeded in increasing the profit from £2,000 or £3,000 last year to nearly £30,000 this year, and if the ordinary shareholders exercised patience he hoped that some day they would be able to pay them a dividend.

The CHAIRMAN, in reply, said that of the item of capital expenditure at the works, including goodwill and patents, the directors of the company probably held one-half of the ordinary share capital and they regretted extremely the fact that they were not receiving a dividend.

Mr. J. B. CONNAN said that the progress made by the company during the past 12 months reflected the greatest credit on the board.

The CHAIRMAN, replying to a vote of thanks, said that the American tariff was still something like 30 per cent. against the company, which made it very doubtful whether they would

The Photograph for Railway Advertising.

application to the superintendent of the line, Great Northern Railway, King's Cross Station. In the case of a Highland

## BUENOS AYRES GREAT SOUTHERN RAILWAY.

cent. preference stock, £8,000,000; 4 per cent. debenture stock, £13,270,352; 4½ per cent. debenture stock (Sadadillo) £1,000,000. Receipts for the year ending June 30 are summarised hereunder:

Passengers ..	1,000,000	1,000,000
Freight ..	1,000,000	1,000,000
Live stock ..	405,028	405,028
Total receipts ..	£5,401,000	£6,500,315
The revenue expenses for the same period were as under:—	1911-12.	1912-13.
Locomotive maintenance ..	180,000	200,110
Miscellaneous expenditure ..	228,317	314,353
3 per cent. tax payable under Mitre ..	0	0
National Government 5 per cent. irrigation bonds ..	3,757	3,757
Profit on remittances, transfer fees, etc. ..	6,000	6,000
Interest on investments in allied companies ..	90,000	90,000
Total net revenue ..	£3,157,481	£3,157,481
Deduct:—		
Interest on 5 per cent. preference stock ..	350,107	350,107
4½ per cent. annuity account of Brandzen Branch ..	10,917	10,917
Proportions of earnings under working agreements ..	99,259	99,259
Total prior charges ..	460,283	460,283
Leaving a disposable balance of ..	£1,358,744	£1,358,744
Out of this available balance on net revenue account of ..		

per cent. (less income tax) on the ordinary stock, absorbing £885,167, making with the interim dividend paid in April last 7 per cent. for the whole year ended June 30, 1913, carrying

The average number of miles of line open for traffic working throughout the year, including the lines worked under agreement, has been 3,544 (against 3,380), an increase of 164 miles. The working expenses amount to 50.31 per cent. of the gross receipts (against 55.83 per cent.), an increase of 0.48. The number of passengers carried during the year was 27,154,719 (an increase of 3,384,745), the receipts being £1,008,750 (an increase of £275,817). The receipts from luggage and parcels amount to £420,234 (an increase of £68,878). The total goods handled during the year amount to 7,077,603 tons (an increase of 2,184,370 tons), the receipts being £3,200,210 (an increase of £708,304). The number of animals carried during the year amounted to 6,502,051 (an increase of 300,028), the receipts being £454,285 (an increase of £10,257).

The report states:—"The proprietors are to be congratulated upon a very successful year's working, for it shows that the line is capable of, given a fairly good season. The working expenses show an increase of £68,128, but this includes £106,504 representing additional contributions to the renewal funds, and taking this into consideration the ratio of expenses to receipts would be 53.77 per cent. instead of 50.31 per cent., or a decreased expenditure of 2.06 per cent. compared with last year. The additional traffic handled, greater mileage worked, and largely increased cost of coal, account for the remaining difference.

"With regard to the current year, the decreases in the trades to date are due partly to the fact that a large proportion of

the maize crop. Traffic has also been considerably hampered and delayed by serious floods in parts of the company's zone, which have cut the lines in several places. It is feared that the floods may also have caused a certain amount of loss in live stock. On the other hand, the same heavy rain-

benefited the principal grain-growing centres, which lie to the south of the flooded district, and a larger area than last year has been put under cereal cultivation, so that good results for the whole year may reasonably be expected.

For some years this company, jointly with the Buenos Ayres Western Railway, has held the majority of the ordinary shares of the Buenos Ayres Midland Railway which, although gradually developing, has not yet earned any dividend on its preference share capital. As long as this was the case the preference shareholders had the right to criticise the management of the Buenos Ayres Midland Railway, making the economical administration of the line difficult. The boards of the Buenos Ayres Great Southern Railway and the Buenos Ayres Western Railway therefore decided to make an offer to the preference shareholders under which they would for a period of three years to June 30, 1916, receive a guaranteed dividend of 3 per cent. per annum and thereafter 4 per cent. per annum in lieu of the 5 per cent. per annum to which the shares were originally entitled out of profits. This offer was accepted and it is believed will allow economies to be effected and improvements in the administration to be made which will tend further to develop the Midland Railway and eventually enable the Southern and Western Companies to reap the benefit of their outlay.

Further extensions have been opened during the year amounting to 97 miles, bringing the total mileage up to 3,582. The extension from Neuquen to Zapala, 110 miles, is practically completed; it is expected that advances will shortly be received that this section has been opened for public service. By Decree of the Executive Power dated February 28 last, the company was authorised to construct a branch line of 28 miles from San Vicente to the South in the direction of Villanueva. The Buenos Ayres, Ensenada and South Coast Company, whose lines are operated by the Southern Railway under a working agreement, has also been authorised to construct a short extension of their line from the point of rails for some 15½ miles in a southerly direction, and to continue their existing line to Magdalena, for a distance of 1½ miles to the centre of the town. Authority has also been given to that company to build a branch of 4½ miles from Elzalde to the south in the direction of Lezama, a station on the Southern Railway's main line from Altamirano to Dolores.

The irrigation works in the Rio Negro Valley, which are being built by the company for account of the Argentine Government, are progressing most satisfactorily and bonds

company, whilst since the close of the financial year a further £123,400 in bonds has been collected.

At the last general meeting the chairman explained the reasons which had induced the boards of the Buenos Ayres Great Southern and Buenos Ayres Western Railways to

amalgamate the two companies, and, as he stated at that

one which would meet with the approval not only of the shareholders, but of the Government and people of the Argentine Republic. The greater part of the system of

Railways is laid out in the Province of Buenos Ayres, and

amalgamation to still further develop the same, and, in this province, but during the 14 months which have elapsed since the petition was presented the present line, and

ways, covering the greater part of the line, owned by the two companies, has made the best of the whole situation.





## CENTRAL URUGUAY RAILWAY OF MONTE VIDEO.

£258,200; 6 per cent. second debenture stock, £250,000. The revenue accounts for the year ended June 30 show

Goods ..	124,881
Passengers ..	124,881
Freight ..	124,881
Less traffic receipts companies	
Total receipts ..	

The expenditure on revenue account during the same period was as follows:—

Maintenance of way, works, etc.	£185,412	
Locomotive expenses ..	180,855	
Carriage and truck repairs ..	20,580	
General charges ..	43,860	
Restaurant expenses ..	3,601	10,078

Total expenditure

Net earnings

£110,244, as compared with the year 1911-12. The working expenses were 54.97 per cent. of the gross receipts on the main line, and 53.81 per cent. on the combined system, as against 53.43 per cent. and 53.60 per cent. respectively in the previous year. The coaching and goods traffic show considerable expansion, the number of passengers, tonnage of goods carried and the receipts therefrom, all being in excess of last year's earnings. There was a falling off in the number of cattle transported; on the other hand, the sheep traffic was good, and, taken altogether, the results of the year's working are distinctly satisfactory. During the past year, under the provisional authority of the Uruguayan and Brazilian Governments, a certain quantity of traffic passed over the short line from Rivera, recently constructed by the Northern Extension Company to connect with the Brazilian Railway system. Advice has now been received to the effect that this line was officially opened to public service on September 1 last, and the board anticipate that the through railway facilities provided will lead to an increase in the exchange of traffic between the two countries. Under the circumstances explained in a circular issued to the proprietors on March 19 last, the proposal for the fusion of the Central Uruguay Northern Extension Railway Company with this company was withdrawn. In the opinion of the directors, the amalgamation, if carried through on the terms suggested, would have been to the mutual advantage of both companies.

## CENTRAL URUGUAY EASTERN EXTENSION RAILWAY.

viz., ordinary shares, £80,000; 5 per cent. preference shares,

£120,504). Adding the balance from previous account, £1,035, Government guarantee, £8,122, income-tax balance, £120, the total net revenue was £112,166, from which is deducted £10,350; debenture interest paid and accrued to June 30, and accrued to June 30, 1913, £13,000; interest, £1,379, leaving a balance of £22,081 out of which the board propose to pay a balance dividend of 5s. per share, less income-tax (making 9s. 6d. per share, or 4½ per cent. for the year), carrying

## CENTRAL URUGUAY NORTHERN EXTENSION RAILWAY.

and the receipts, £1,627,150 viz., ordinary shares, £1,000,000; 5 per cent. debenture stock, £627,150.

The gross revenue for the year ended June 30, 1913, amounted to £147,143 (against £122,361 for the previous year), the expenses to £71,612 (against £62,611), and the net profits to £75,531 (against £59,750). Adding the balance from previous year, £793, Government guarantee, £4,569, and income-tax, £221, the total net revenue was £80,000, which was disposed of as follows:—Interim dividend, £21,250; debenture stock interest, £31,357; interest, £2,513; balance dividend of 5s. 3d. per share, less income-tax (making 9s. 6d. per share, or 4½ per cent. for the whole year), £24,700; balance to be carried forward, £1,672.

## BRITISH EAST AFRICA CORPORATION.

director, stated that the corporation had recently been asked to undertake a very important official agency, viz., to handle the

(Mr. Laurence Philipps) would be one of the first tourists to visit the organisation, for he hoped to visit Uganda, via the Sudan, in a few months' time. The harbour at Kilindini, the

charge and loading of cargo. It would cost about £750,000 to provide this. The Colonial Office had faced the matter by sending out their consulting engineer. The shipping using the

rails, needed to be strengthened by being laid with heavier

awaiting development because of the difficulty of access. The

more trucks for the carriage of produce. The contracts for





**RAILWAY ELECTRIFICATION.**

The Pacific Railway Company has been authorized by the Public Works Committee of the Senate (Brien Ayrton) to quadruple its line between the capital and Arroyo Pinasco, and to adapt electric traction where the exigencies of the traffic call for the same.

**A PENNSYLVANIA SUBURBAN SCHEME.**

The Pennsylvania Railroad has announced that the electrification for suburban passenger service of the New York division to Chestnut Hill, a distance of twelve miles from Broad Street station, is to be undertaken, and it is expected that the work will be completed by the autumn of 1914. It will involve an expenditure of about \$1,250,000. Until traffic between Allens Lane and Fort Hill, on the Fort Washington branch, warrants its electrification it is intended to continue the steam service between these points. The Pennsylvania Railroad is endeavouring to relieve the congestion at Broad Street Station, Philadelphia, and instead of waiting for the enlargement of Broad Street station to Cuthbert Street, it has been determined that the electrification of the Chestnut Hill branch, in connection with the electrification of the main line to Paoli, which was announced some time ago, offers the most prompt and effective plan. There are now 85 Paoli steam trains each day in and out of Broad Street station, and 66 trains to and from Chestnut Hill branch, all of which will be operated by electricity.

**BRIGHTON WEEK-END TICKET RETURN.****THE CO-STATION, AN APPEAL.**

In the City of London Court on Wednesday last, the case of *Cohen v. London, Brighton, and South Coast Railway Company* was mentioned to Judge Lumley Smith, K.C., by Mr. J. B. Matthews, who now appeared as counsel for the railway company. He said that on September 30 the Assistant Registrar, Mr. E. B. Tattershall, tried, by consent, under Section 42 of the County Courts Act, a claim which was made by Mr. H. Cohen, a member of the Bar, against the London, Brighton, and South Coast Railway Company for 18. 5d. excess which had been charged him on a week-end ticket to Brighton. The case was of the greatest possible importance to the company, and they wanted to appeal against the decision of the Assistant Registrar, because if the decision was upheld the public would be able to give the go-by to the conditions under which the ticket was issued to the plaintiff in that case. The Assistant Registrar recognised that it was a case that would go to the Divisional Court, and the solicitor to the company who conducted the case thought there would be no difficulty in the matter.

Judge Lumley Smith: I saw a difficulty the moment I read the report in the newspaper.

Mr. Matthews said the difficulty created had arisen in the case of *Rosen v. Rank*, 1912, 2 K.P., in the Divisional Court. Mr. Justice Lush expressed a strong opinion that the Assistant Registrar could not give leave to appeal in such a case. In that case it was decided that the proper course was to apply

intended applying to that court either for a new trial or leave to appeal. But the judge, as we may say, was not, and the Registrar declined to accept it. He now asked the judge to direct the Registrar and his officers to accept the notice, of course without prejudice to any argument that Mr. Cohen might put forward about the notice being a day late and ought not to be received.

Judge Lumley Smith said what had struck him was that as the Assistant Registrar had refused to accept the notice, he wondered if there was any right of appeal at all, as either party could have insisted on the case being tried by the judge instead of going before the Assistant Registrar.

Mr. Matthews said his point would be that the Assistant Registrar was wrong in law.

Judge Lumley Smith inquired what power he had to enlarge the time in which to allow the application for a new trial to be made.

Mr. Matthews said he was asking the judge to do so without deciding that there ought to be a new trial.

Judge Lumley Smith said he noticed that the subject of appeal was mentioned before the Assistant Registrar, and he would therefore direct the Registrar's Office to receive the notice of application, although it was out of time. Of course, he gave no opinion as to whether there would be any appeal or not.

Mr. Matthews added that he would ask at the proper time that the new trial should be before one of the judges of the court.

*Edw. Under Street. I will.*

**SCHMIDT SUPERHEATERS CELEBRATION.**

A celebration was held at the works of the Schmidt Superheaters Co., Ltd., at Wednesbury, on the 10th inst., to mark the completion of the 100th year of the firm's existence. The works were crowded with guests, and the celebration was a most successful one. The firm's products are well known throughout the world, and the celebration was a fitting occasion to celebrate the firm's long and successful career. The guests were entertained with a most sumptuous dinner, and the evening was spent in a most enjoyable manner. The celebration was a most successful one, and the firm's products are well known throughout the world.

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## PERSONAL.

**Inspector C. Howells.**—Since Mr. Howells was appointed to the post of Inspector of the Great Western Railway, he has been very busy in his new position.

**Mr. C. A. Lambert.**—Mr. Lambert, who has been in the service of the Great Western Railway for many years, has been appointed to the post of Inspector of the Great Western Railway.

**Mr. Fred C. Salter.**—Mr. Salter, who has been in the service of the Great Western Railway for many years, has been appointed to the post of Inspector of the Great Western Railway.

**Mr. H. G. Cabrett.**—Mr. Cabrett, who has been in the service of the Great Western Railway for many years, has been appointed to the post of Inspector of the Great Western Railway.

**Alderman J. W. Bartley.**—Mr. Bartley, who has been in the service of the Great Western Railway for many years, has been appointed to the post of Inspector of the Great Western Railway.

**Mr. Edward Fraser.**—Mr. Fraser, who has been in the service of the Great Western Railway for many years, has been appointed to the post of Inspector of the Great Western Railway.

**Dinner to a Retiring Manager.**—A dinner was given to Mr. Hutchinson, who has been in the service of the Great Western Railway for many years, at the Midland Grand Hotel, St. Pancras Station, London, by the principal officers of the Great Western Railway.

## RAILWAY NOTES.

**A Railway for Table Mountain.**—The Government have decided to build a railway from Cape Town to Table Mountain, and the route has been decided.

**Great Western Excursions.**—The Great Western Railway has announced that it will run a series of excursions to various parts of the country, including the Lake District, the Lake of Geneva, and the Lake of Annecy.

**The Aisgill Collision.**—The board of the Midland Railway has decided to pay compensation to the family of the deceased in the Aisgill collision.

**Great Northern Drivers' Demands.**—The Great Northern Railway has announced that it will pay a bonus to its drivers for the year 1913.

**Howart, K.C., will appear on behalf of the Director of Public Health.**

**Great Northern Drivers' Demands.**—The Great Northern Railway has announced that it will pay a bonus to its drivers for the year 1913.

**in favour of regular booked turns, instead of being liable to be called on duty at all hours. The alleged dirty state of some engines that drivers and firemen had.**

**Great Western's Abnormal Summer Traffic.**—At a meeting of the Great Western Railway, it was decided to pay a bonus to its drivers for the year 1913.

Since the late Mr. Howells was appointed to the post of Inspector of the Great Western Railway, it was stated that an inquiry would be made into the matter of the company's affairs, and that the inquiry would be held by the company's directors. It was stated that the inquiry would be held by the company's directors, and that the inquiry would be held by the company's directors.

**Institute of Directors.**—The Institute of Directors has decided to hold a conference in London, and the conference will be held by the Institute of Directors. The conference will be held by the Institute of Directors, and the conference will be held by the Institute of Directors.

## OBITUARY.

**Mr. J. Calder.**—Mr. J. Calder, who has been in the service of the Great Western Railway for many years, has been appointed to the post of Inspector of the Great Western Railway.

**Mr. Frederick W. Forster.**—Mr. Forster, who has been in the service of the Great Western Railway for many years, has been appointed to the post of Inspector of the Great Western Railway.

**PATENT 26027 (1907) "Mazdolin" Apparatus.**—The proprietor of the "Mazdolin" apparatus, which is used for the purpose of measuring the distance between two points, has decided to grant a licence to the proprietor of the "Mazdolin" apparatus.

**PATENT 26023 (1906) "Mazdolin" Improvements.**—The proprietor of the "Mazdolin" improvements, which are used for the purpose of measuring the distance between two points, has decided to grant a licence to the proprietor of the "Mazdolin" improvements.

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## RAILWAY STOCK AND SHARE LIST.

### HOME RAILWAY ORDINARY STOCKS.

Name	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000
Barry, Ord.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

### Debenture Stocks.

[illegible]**Debenture Stocks** (continued)[illegible]

### Preference Stocks

DISTRIBUTION OF SALARY IN THE DEPARTMENT OF STATE		
1930-1931-1932		
At the close of the year, 1931-1932	45	91
Of which: 1931-1932	30	91
Of which: 1932-1933	15	110
Of which: 1933-1934	20	90
Of which: 1934-1935	15	91
Continued from 1930-1931	90	91
Of which: 1930-1931	41	91
Of which: 1931-1932	115	113
Of which: 1932-1933	20	91
Of which: 1933-1934	20	91
Of which: 1934-1935	20	91
Of which: 1935-1936	20	91
Of which: 1936-1937	20	91
Of which: 1937-1938	20	91
Of which: 1938-1939	20	91
Of which: 1939-1940	20	91
Of which: 1940-1941	20	91
Of which: 1941-1942	20	91
Of which: 1942-1943	20	91
Of which: 1943-1944	20	91
Of which: 1944-1945	20	91
Of which: 1945-1946	20	91
Of which: 1946-1947	20	91
Of which: 1947-1948	20	91
Of which: 1948-1949	20	91
Of which: 1949-1950	20	91
Of which: 1950-1951	20	91
Of which: 1951-1952	20	91
Of which: 1952-1953	20	91
Of which: 1953-1954	20	91
Of which: 1954-1955	20	91
Of which: 1955-1956	20	91
Of which: 1956-1957	20	91
Of which: 1957-1958	20	91
Of which: 1958-1959	20	91
Of which: 1959-1960	20	91
Of which: 1960-1961	20	91
Of which: 1961-1962	20	91
Of which: 1962-1963	20	91
Of which: 1963-1964	20	91
Of which: 1964-1965	20	91
Of which: 1965-1966	20	91
Of which: 1966-1967	20	91
Of which: 1967-1968	20	91
Of which: 1968-1969	20	91
Of which: 1969-1970	20	91
Of which: 1970-1971	20	91
Of which: 1971-1972	20	91
Of which: 1972-1973	20	91
Of which: 1973-1974	20	91
Of which: 1974-1975	20	91
Of which: 1975-1976	20	91
Of which: 1976-1977	20	91
Of which: 1977-1978	20	91
Of which: 1978-1979	20	91
Of which: 1979-1980	20	91
Of which: 1980-1981	20	91
Of which: 1981-1982	20	91
Of which: 1982-1983	20	91
Of which: 1983-1984	20	91
Of which: 1984-1985	20	91
Of which: 1985-1986	20	91
Of which: 1986-1987	20	91
Of which: 1987-1988	20	91
Of which: 1988-1989	20	91
Of which: 1989-1990	20	91
Of which: 1990-1991	20	91
Of which: 1991-1992	20	91
Of which: 1992-1993	20	91
Of which: 1993-1994	20	91
Of which: 1994-1995	20	91
Of which: 1995-1996	20	91
Of which: 1996-1997	20	91
Of which: 1997-1998	20	91
Of which: 1998-1999	20	91
Of which: 1999-2000	20	91
Of which: 2000-2001	20	91
Of which: 2001-2002	20	91
Of which: 2002-2003	20	91
Of which: 2003-2004	20	91
Of which: 2004-2005	20	91
Of which: 2005-2006	20	91
Of which: 2006-2007	20	91
Of which: 2007-2008	20	91
Of which: 2008-2009	20	91
Of which: 2009-2010	20	91
Of which: 2010-2011	20	91
Of which: 2011-2012	20	91
Of which: 2012-2013	20	91
Of which: 2013-2014	20	91
Of which: 2014-2015	20	91
Of which: 2015-2016	20	91
Of which: 2016-2017	20	91
Of which: 2017-2018	20	91
Of which: 2018-2019	20	91
Of which: 2019-2020	2	

### Preference Stocks—

(continued).

[illegible]



## Foreign Railways.

## NAME \_\_\_\_\_

CLOSING PRICES.

[illegible]





## FOREIGN AND COLONIAL.—Continued.

[illegible]

## FOREIGN AND COLONIAL RAILWAYS

WORKING STATEMENTS AS LAST REPORTED.



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Never less than 16 feet at low tide, and 20 feet at high tide. Docks fully equipped with Hydraulic and Electric Appliances. The White Star Dock, with a depth of 40 ft., is now open for the accommodation of vessels. Depths of water indicated are L.W.O.S.T.

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**SOUTHAMPTON AND ST. MALO. Passengers and Merchandise.**

**SOUTHAMPTON to ST. MALO—**

**ST. MALO to SOUTHAMPTON—**

**SOUTHAMPTON AND CHERBOURG.**

**Passengers and Merchandise.**

**SOUTHAMPTON to CHERBOURG—**Every Tuesday and Thursday at 11.15 a.m.

**Last train from Waterloo, 8.15 p.m.**

**CHERBOURG to SOUTHAMPTON—**Every Tuesday and Thursday at 11.15 a.m.

**11.15 p.m.**

**SOUTHAMPTON**

**AND THE**

**CHANNEL ISLANDS.**

From SOUTHAMPTON—Steamer leaves 12.15 p.m. (Monday to Friday) and 1.15 p.m. (Saturday and Sunday).

To SOUTHAMPTON—Steamer leaves JERSEY 8 a.m. (Monday to Friday) and 10 a.m. (Saturday and Sunday).

JERSEY to ST. MALO, and vice versa.

JERSEY to GRANVILLE, and vice versa.

There are also services between SOUTHAMPTON and NONFLEUR, and ROSCOFF, with one stop.

The fullest information on all points connected with the business of the Lines, and the Steamship Services, will be found in the Railway and Marine Manager, Mr. T. M. WILLIAMS, Southampton; for Passenger Tickets, from Mr. H. J. SIMMONS, Superintendent of the Lines, and Goods Rates, from Mr. J. H. J. SIMMONS, Goods Manager, Waterloo Station, S.E.

(1913)

H. A. WALKER, General Manager.

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"MOSBAY, CANNON, LONDON"

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## COMPANY NOTICES.

## The Great Western of Brazil Railway Company, Limited.

NOTICE is hereby given that the Shareholders of the Company will meet on the 21st October (that is to say, the 1st day of the month of October) at 10 o'clock in the forenoon at the Company's Office, 10, Abchurch Lane, London, E.C. 4, to receive the dividend on the shares of the Company for the year ended 30th June.

By Order of the Board,  
H. TAYLOR,  
Secretary.

## TENDERS INVITED.

## The Great Indian Peninsula Railway Company.

THE Directors are prepared to receive tenders for the following items:

1. Brass Hinges, handles, etc.  
2. Steel Headings, iron rods and Chas. Metals.  
3. Stationery, etc.  
4. Galvanized Corrugated Sheets, etc.  
Tenders may be obtained from the undersigned on the 18th October 1913, and must be submitted in sealed envelopes, addressed to the undersigned, and must be accompanied by a deposit of 10% of the amount of the tender. The deposit will be returned on the 25th October 1913. The lowest tender will be accepted.

By Order of the Board,  
R. H. WATKINS,  
Secretary.

## East Indian Railway Company.

ASSISTANT CARRIAGE AND WAGON SUPERINTENDENT

THE Directors of the East Indian Railway Company are prepared to receive tenders for the supply of 1000 pairs of wheels for the use of the Company's rolling stock. The wheels must be made of a good quality of steel, and must be of the following dimensions:—Diameter, 24 inches; width, 4 inches; thickness, 1 1/2 inches. The wheels must be of the following pattern:—

The wheels must be made of a good quality of steel, and must be of the following dimensions:—Diameter, 24 inches; width, 4 inches; thickness, 1 1/2 inches. The wheels must be of the following pattern:—

By Order of the Board,  
G. W. YOUNG, Secretary.

OFFICIAL ADVERTISEMENTS for insertion in the current week's issue should be received by 6 p.m. on Friday.

All communications relating to advertisements should be addressed to THE RAILWAY TIMES, 12, Norfolk Street, Strand, London, W.C.

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# The Railway Times

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## PRINCIPAL CONTENTS.

## SOUTH AFRICAN LABOUR TROUBLES.

Further interesting light on the late trouble in South Africa so far as the railway is concerned is afforded by various passages in the annual report of Mr. Hoy, the general manager of the railway, on the subject of which is given in our present issue. There are two sources of unrest among the railway men—one the discontent among the Rand miners which was artificially extended to the railwaymen who had no concern in the matter, and the other the pursuance in the policy of reducing the over-abundant railway staff—a process which in South Africa is called retrenchment, and the men paid off are said to be retrenched. What are called retrenchment benefits are paid to those whose services are dispensed with. In regard to conditions of employment on the railways, Mr. Hoy points out in his report that a measure called the Railways and Harbours Service Act was passed last year which is rightly regarded by the servants as the charter of their rights and privileges. He knows of no other railway in the world where the rights of the employees are so fully safeguarded, or where such generous super-annuation provision is made. Along with these things comes the absolute necessity of securing efficiency and economy, the more especially as wages have been greatly raised and rates and fares greatly reduced. For the present these changes have led to a material reduction in the net earnings of the railways, although the volume of business is steadily increasing. As Mr. Hoy says, unremitting care is necessary to prevent the Department being utilised as a forcing-house for syndicalist theories. In regard to retrenchments, there were 411 cases during last year. Further retrenchment is unavoidable, though every effort is made to avoid it, as it is not in the interests of the Administration to swell the pension or gratuity lists. The railway staff is still somewhat excessive. As to the disturbances among the Rand miners, Mr. Hoy has some strong remarks regarding agitators who systematically set to work to provoke unrest among the railway servants. The Act before referred to makes special provision for dealing in a constitutional manner with any railway dispute. The futility of outside interference is clear from the fact that no federation of trades can successfully negotiate for conditions of service of railway employees which would be acceptable to such employers. The federation men are totally unacquainted with the conditions governing the railway service, and there can be no identity of interests between the railway and the mine workers. Only 3.7 per cent. of the railway staff submitted grievances when asked to do so. The manager, indeed, believes that the men receive the highest rates of pay of any railway staff in the world. Information as to the position of matters is to some extent brought down to date by a telegram from the Cape Town correspondent of *The Times*, dated Monday last. It appears from this that an agitation against further retrenchment is still in progress, and that the suggestion that retrenchment is undertaken by way of revenge for the railwaymen's previous strike during the "Winter of the Rand" is still in the air. The fact is that the disagreeable duty which the Administration

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have hitherto shirked is likely to become obligatory owing to the financial position. In the first five months of the current financial year the revenue was £17,000 below the estimate, while the working expenditure was £72,000 over the estimate. All these things being so, it is clear that the Railway Administration and Mr. Hoy have troublous times ahead. The position is one of great difficulty. Even as things now are, the payments into the depreciation and renewals fund are regarded as inadequate. If the railways were worked by a company, the overcoming of troubles would be a matter of less difficulty. Looking at railway experience in this and other British dominions where the railways are owned and worked by the State, it is not easy to see why there should still be so much ill-considered talk about railway nationalisation in this country, where the financial troubles would be still greater.

### STATIONMASTERS AND THE PARLIAMENTARY VOTE.

If the barristers entrusted with the revision of the lists of Parliamentary voters throughout the country took the same view as Mr. Dyer, the Revising Barrister for the Melton Division, a great many stationmasters and other railway servants would lose the Parliamentary franchise. The Barrister was called upon to decide several objections and contentions in connection with a claim, supported by the Conservative agent, for the Parliamentary vote on account of the stationmaster's occupation of the dwelling portion of Frisby Station on the Midland Railway. No objection can be urged to the contention, if it were sustained, that the official had not, during the whole of the twelve months preceding July 15 last, occupied as owner or tenant. A different view, however, will be generally entertained regarding the overruling by the Barrister of the plea of the Conservative agent that, under Section 10 of the Poor Law Amendment Act, 1867, "any officer whose name shall be sent in writing to the overseers before March 1 in any year to be entered in the rate book in the name of the company rated for the premises, is entitled to vote in respect to the property assessed as if he were assessed in his own name for the same." In objection to this, the Liberal agent claimed that the words "in any year" meant "in every year," and that unless the notice were sent in every year the section had not been complied with. On this point the facts admitted or proved were that the overseers received the notice in due form some years ago, when the name was entered in the rate book, but no notice had been received in the current year. According to the report of the Barrister's ruling, it would appear that he avoided giving a decision upon this latter point, which is of very great importance. It will probably be found that railway and other companies affected by the section do not send in the names of their servants every year, but leave that task to the employees themselves. An altogether distinct and novel contention was finally upheld by the Barrister as the reason for taking the name out of the list. It was advanced by the Liberal agent, who maintained that the foregoing statute did not apply to Parliamentary elections. In giving his reason for coming to the conclusion that the section had reference only to elections of Poor Law guardians, the Barrister said there was no reference in the Act to any other elections. He admitted, however, that doubt was entailed by an expression used in Schedule 1 of the Local Government Act, 1864, which repeated Section 10 in these terms: "So far as it applies to elections of guardians." In disposing of the Conservative agent's plea on this point that the exclusion of guardians by implication left the efficacy of the section unimpaired so far as regarded other, and so Parliamentary, elections, Mr. Dyer admitted that this might well be so if Section 10 had originally applied to Parliamentary elections, but in his view it never did. The commonsense view of the matter is that the Section does so apply,

and we would point out that the basis of all rating, upon which occupiers' votes rest, is the Poor Law assessment, and that the clerk to the guardians is the clerk to the assessment committee, who are constituted from among the guardians. As the stationmaster did not occupy during the qualifying period doubtless the more important aspect of the case cannot form the subject for an appeal. In this connection it is worthy of remark that the Barrister in a closing pleasantry observed that he quite thought his decision might be wrong. In view of the result of the case being acted upon by political agents in other constituencies, railway companies would be well advised to annually forward the names to the overseers.

### GRAND TRUNK HALF-YEAR.

The complete accounts of the Grand Trunk Railway to be submitted to the shareholders on the 23rd inst. show that the company still exhibits wonderful vitality so far as its gross earnings are concerned. The gross increase on the main line for the past six months was over £531,000, of which no less than £372,000 was in freight and live stock traffic. The average rate per ton per mile on the whole of the freight business showed a slight advance—namely from .068 of a cent. to .069 of a cent. Unfortunately, the working expenses have grown at an unusually rapid rate, and have absorbed £413,800 additional. The principal addition to expenditure was in conducting transportation—namely, £320,500, and an examination of the details discloses the fact that wages and increased cost of fuel account for most of the increased outlay. An unusual feature of the Grand Trunk accounts is the clear indication that most of the additional expenditure on the present occasion has been compulsory, and not voluntary. The ratio of working expenses to gross receipts is increased from 72.85 per cent. to 73.46 per cent. The Grand Trunk main line yielded an extra amount of net revenue, after meeting all net revenue charges, of £56,000. On the other hand, the deficiency on the Canada Atlantic and the Detroit sections increased by £47,000, so that the final balance divisible among Grand Trunk shareholders was only about £9,000 for the half-year. This provided the full dividends as usual on the first and second preference stocks for the half-year, with a balance forward of about £16,000. Another unusual feature of the half-year was the very large amount of capital expenditure—namely, £1,318,000. Details supplied show that £530,000 was expended on the purchase of Grand Trunk Pacific development notes, and £455,000 on additional locomotives. On the other hand, the amount of new capital raised during the half-year was rather less than £450,000. The credit balance on capital account still exceeds 5½ millions, and on the credit side of the balance sheet that item is mainly offset by "Sundry outstanding accounts due to the company, which figure for considerably over six millions." Some explanation of this exceedingly large item seems to be due to the shareholders. The Grand Trunk Pacific line may account for a good deal of this item, and the report gives a good account of the progress of this important Transcontinental system. It appears that only 230 miles are necessary to complete the main line from Winnipeg to the Pacific Coast, and it is hoped that the main line to Prince Rupert will be joined up by the autumn of next year.

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways for the week ended October 12 gives a total of £2,336,334, which was earned on 21,974 miles, being at the rate of £106 6s. 5d. per mile of line open. For the corresponding week of 1912, the receipts of the same lines amounted to £2,333,508, with 21,898 miles open, or £106 11s. 3d. per mile. Thus there was an increase



of £2,826 in the receipts, an increase of 76 in the mileage, and a decrease of 4s. 10d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £22,482 (or 17s. 9d. per mile) in the passenger receipts and a decrease of £17,140 (or 11s. 2d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the forty-one weeks in the passenger receipts has been £2,769,566, while the aggregate increase in the goods traffic was £3,963,400. The aggregate receipts of the fifty railways for forty-one weeks (December 29 to October 12) amounted to £96,199,546, in comparison with £80,271,288 last year, an increase of £6,928,258, not including receipts from certain canals, etc.

## MONEY AND STOCK MARKETS.

SETTLEMENT DAYS.

CONSOLS.—WEDNESDAY, NOVEMBER 5.

Continuation Days.	Ticket Days.	Pay Day.
Mines ..... Oct. 27	Mines .... Oct. 28	Oct. 30
General ..... " 28	General ..... " 29	" 31
Mines ..... Nov. 11	Mines ..... Nov. 11	Nov. 13
General ..... " 11	General ..... " 12	" 14
Mines ..... " 24	Mines ..... " 25	Nov. 27
General ..... " 25	General ..... " 26	" 28

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchange, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Same Week Last Year.
Bank's Coin and Bullion	£35,057,28	£35,712,341	£37,565,700
Total Reserve .....	£24,000,000	£24,930,706	£27,387,666
Proportion of Reserve to Liabilities .....	54.0 p.c.	52.7 p.c.	48.74 p.c.
Notes in Circulation ....	£28,845,000	£28,231,225	£28,828,130
Bank Rate* .....	5 p.c.	5 p.c.	5 p.c.
Open Market Discount..	4½ p.c.	4½ p.c.	4½ p.c.
Bankers' Clearing House	£321,200,000	£320,447,000	£333,443,000
Silver bars, per oz. (spot)	28½d.	28½d.	28½d.
Consols (account) .....	72½	73½	73½
French 3 per cent. (acc.)	87½ 50c.	87½ 50c.	88½ 50c.
Paris Cheque exchange..	25½ 2½c.	25½ 2½c.	25½ 2½c.
New York 60 days ditto	\$4 8½	\$4 8½	\$4 8½
Rio de Janeiro exchange	16½ 1	16½ 1	16½ 1
Valparaiso 90-day exche	9½ 1	9½ 1	9½ 1
Calcutta transfers .....	18. 4 1.	Holiday	18. 4 1.
Hong Kong transfers ..	28. 0 1.	18. 1 1½	23. 0 1.
Shanghai transfers ....	28. 0 1.	28. 0 1.	28. 0 1.

* BANK RATE FLUCTUATIONS.	per cent.	Jan. 14, 1909	Feb. 15, 1911
2 ½	Jan. 14, 1909	2 ½	Feb. 15, 1911
2 ½	Mar. 17, 1909	2 ½	Mar. 15, 1911
2 ½	Apr. 14, 1909	2 ½	Apr. 15, 1911
2 ½	May 14, 1909	2 ½	May 15, 1911
2 ½	Oct. 16, 1909	2 ½	Oct. 17, 1911
2 ½	Oct. 21, 1909	2 ½	Oct. 22, 1911
2 ½	Dec. 3, 1909	2 ½	Dec. 4, 1911
2 ½	Jan. 5, 1910	2 ½	Jan. 6, 1912

Only £140,000 was withdrawn from the Bank for the week under review, all of which was required for India and the Mediterranean. Against this £200,000 was received in new gold from the mines. This was a good deal less than had been hoped for, as at one time it seemed probable that the Bank would secure at least half-a-million from that source. About £216,000 was returned from circulation within the country, and the value of the notes in the hands of the public was reduced by £386,000; hence the Reserve is better by £661,000. Rates of discount have stiffened, nevertheless, and this in spite of the fact that money is relatively cheap. Indeed, the immediate outlook is far from clear, and betting is about even as to whether a six per cent. Bank Rate will be imposed before the end of the year or not. It is to be noted that Other Securities are £750,000 lower and Government Securities are unchanged, while of the £652,000 by

which Public Deposits have been diminished Other Deposits have secured £547,000, which leaves the latter, notwithstanding, more than five millions below the level which obtained at the corresponding date of last year. The reduction is startling, but the Joint Stock Banks have no doubt very largely increased the contents of their tills, as the Mint Report issued during the week tends to corroborate. The effect of all changes has been to raise the ratio of the Reserve to the liabilities of the Bank by 1½ points, so that as far as the Bank itself is concerned the situation is stronger than ever. The enormous expenditure of our own Government will need to be provided for by large issues of Treasury Bills in the near future, and the resources of the market will soon be curtailed thereby. Government Deposits are four million less than they were a year ago, and when this item has been adjusted the period of relatively easy money will be over.

On the Stock Exchange the same dulness that has prevailed during the last few months continued with unabated apathy. Again it is reported that a stand is to be made against the further underwriting of new issues, which means in most instances that the Banks will be obliged to finance their impecunious customers a little longer—longer possibly than is altogether convenient. Consols were put 3-16ths higher during the week on the strength of an understanding to this effect between the Capel Court jobbers. The main consequence of such a policy so far as it succeeds can only be to raise the rate of interest on loans of capital, and it cannot diminish the weight of tendencies depressing the price of established stocks, indeed the policy does but testify to the scarcity of loanable capital, and by making this more widely known will probably accentuate the downward tendency.

Last Saturday was "Yom Kippur," so Jewish members were absent from the House, but business would probably have been no more active had they been there, and in almost every market prices sagged for want of support. Monday was a holiday in New York, being "Columbus day." Here the carry-over was in progress. Higher rates were charged by the Banks for accommodation, and contangoes were nearly, if not quite, 1 per cent. more than on the last occasion. Mexicans were particularly heavy on news of General Huerta's *coup d'état*. An attempt was made to bid up Brazilians, but it was not persevered in. Prices in Home Rails hardly responded to the addition of contangoes. Upon this market, in addition to the depressing influences common to all, weighs the menace of an impending labour agitation. The "intellectuals" of the movement aim at a black-leg-proof organisation, as they call it, which is to demand and obtain not only better pay and easier work for employees but a subvention to the Union from the companies as consideration for permitting the railways to be worked at all. The next day a firm of jobbers in the American market was said to be in difficulties. United States Railways fell sharply. Canadas were offered from Berlin and declined 2½. Trunks were also weak, and Argentine Railways fell. Buenos Ayres Pacifics were depressed owing to doubts as to the dividend about to be announced. The traffic receipts have been declining of late, and it is thought that 2½ per cent. is as much as the directors will recommend for distribution. On Wednesday a rather better tone prevailed owing to the stand made against the issue of further loans. The New Zealand issue of last week devolved upon the underwriters to the extent of no less than 92 per cent. so that the offer to the public was practically refused. The following day irregularity supervened. Gilt-edged stocks improved, but Americans, with Canadian and Mexican railways, declined, while Home Rails moved in small fractions where they moved at all; as many up as down. Further liquidations took place in Brazilians.

On Friday depression ruled as completely as ever. Home rails were firmer at first as a result of the settlement of the labour difficulties in the Lancashire cotton spinning industry, but buyers did not respond, and at the close of the day prices were even lower throughout the active list. Many of these stocks are now, in fact, quoted at the lowest price known during this generation. Foreign bonds and international securities declined. United States railways fell, Canadas and Trunks likewise. Mexicans were particularly depressed owing to the disappointment caused by the reduction of the dividend on the Vera Cruz stock. Madeira Marmore Debentures were 4 lower at 81. A failure on the Stock Exchange was announced, but the amount involved is understood to be small. It is remarkable that such news as the settlement of the dispute menacing the cotton trade was without a discernible influence on prices.

The movements of the week are set forth below:—

Name of Stock.	Rise.	Fall.	Name of Stock.	Rise.	Fall.
<i>British Funds.</i>			<i>American Railways.</i>		
Consols, 2½ per cent.	..	—	Atchison Common ..	..	3
Do. (acc. 2½ per cent.)	..	—	Baltimore and Ohio ..	..	2
<i>British Railways.</i>			Chesapeake and Ohio ..	..	2
Barry Deferred ..	..	—	Chicago Gt. Western ..	..	—
Caledonian ..	..	½	Chicago Mil. & S. Paul ..	..	2½
Do. Pref. Con. Ord.	..	—	Denver & Rio Grande ..	..	—
Do. Def. Con. Ord.	..	1	Do. Preferred ..	..	2½
Central London ..	..	—	Erie Common ..	..	2½
Do. Deferred ..	..	—	Do. 1st Preference ..	..	—
City and S. London ..	..	—	Do. 2nd Preference ..	..	—
East London Con.	..	—	Illinois Central ..	..	3
Furness ..	..	—	Louisville & Nashville ..	..	—
Great Central Pref.	..	1	Missouri Kans. & Texas ..	..	½
Great Eastern ..	..	—	New York Central ..	..	1½
Gt.Nthn. Pref.Con.Ord.	..	1	N.Y., Ont. & Western ..	..	½
Do. Def. Con. Ord.	..	2	Norfolk & Western ..	..	1½
Great Western ..	..	1	Do. Preferred ..	..	—
Hull and Barnsley ..	..	1	Pennsylvania ..	..	1
Lat. & Am. Yorkshire	..	—	Reading Common ..	..	3
London, Br. & S. Coast	..	—	Southern Pacific Com.	..	5½
Do. Deferred ..	..	1	Southern Common ..	..	—
London Chat. & Dover	..	½	Do. Preferred ..	..	xd
London & N. Western	..	—	Union Pacific ..	..	6½
London & S. Western	..	—	Do. Preferred ..	..	2
Do. Def. Con. Ord.	..	1			
Metropolitan ..	..	2	U.S. Steel Corp. Com.	..	2½
Metropolitan District	..	—	Do. 7 p.c. Cum. Pref.	..	1
Midland Def. Ord.	..	—			
North British Pref.Ord.	..	½	<i>Foreign Railways.</i>		
Do. Def. Ord.	..	—	Antofagasta Def. Ord.	..	xd
North Eastern Cons.	..	—	Argentine Gt. Western ..	..	4
North Stationaire	..	—	Buenos Ayres & Pacific ..	..	2½
South Eastern ..	..	1	Buenos Ayres Gt. Strn.	..	2
Do. Deferred ..	..	—	Buenos Ayres Western ..	..	3
Tat. Wide ..	..	½	Central Argentine ..	..	1
			Do. Deferred ..	..	1
Underground Electric	..	—	Cent. Uruguay of Mont.	..	—
Do. 4½ p.c. Bonds ..	..	—	Cordoba Cent. Ord.	..	1
Do. 6 p.c. Bonds ..	..	—	Do. 1st Pref. ....	..	—
<i>Colonial Railways.</i>			Costa Rica ..	..	1
Canadian Pacific ..	..	½	Cuban Central ..	..	½
Grand Trunk of Canada	..	—	Leopoldina ..	..	½
Do. 4 p.c. Guaranteed	..	—	Mexican Ordinary ..	..	6½
Do. 1st Preference ..	..	—	Do. 1st Pref. 8 p.c.	..	1
Do. 2nd Preference ..	..	—	Do. 2nd Pref. 6 p.c.	..	7½
Do. 3rd Preference ..	..	—	Nitrate Ordinary ..	..	3
			Ottoman (Smyrna to Aidin)	..	1
			Un. of Hawaii Ord.	..	—

### SLOW PROGRESS OF THE TRANS-AUSTRALIAN LINE.

The Trans-Australian Railway, which is the longest in the world, is now being constructed by the Commonwealth Government. The line is to be built from Perth to Adelaide, a distance of 2,445 miles. The first section, from Perth to Inland, is now being constructed. The line is to be built in stages, and it is expected that it will be completed in 1915. The line is to be built by the Commonwealth Government, and it is expected that it will be completed in 1915. The line is to be built in stages, and it is expected that it will be completed in 1915. The line is to be built by the Commonwealth Government, and it is expected that it will be completed in 1915. The line is to be built in stages, and it is expected that it will be completed in 1915.

### PROPOSED AMENDMENT OF THE CONCILIATION SCHEME.

A sub-committee appointed by the executive committee of the National Union of Railwaymen has presented the following report:—

"The sub-committee having carefully considered the question of the termination or amendment of the conciliation scheme as per clause 53 of the scheme, recommend to the executive committee that the whole of the conciliation boards at their next half-yearly meetings to be held in November should be advised to give notice to the railway companies of their intention to terminate the present scheme, and so enable the executive committee to enter into negotiation with the railway companies with a view of submitting an amended scheme which will be more satisfactory to railway workers."

In order to give effect to the contents of the foregoing resolution, the sub-committee recommended to the executive committee to fix December 1, 1913, as the date upon which notice of termination shall be given to the companies by the conciliation boards in accordance with clause 53 of the scheme. The executive committee, it is learned, decided unanimously to adopt the recommendations contained in the report from the sub-committee, and instructed the general secretary to issue instructions to all conciliation board secretaries accordingly.

Mr. J. H. Thomas, M.P., general secretary of the Union, speaking at Neath on October 12, remarked that next year the conciliation agreement would end, and it was within the power of the Union to give notice cancelling that agreement, not necessarily to abolish it, but to make it more comprehensive. Official recognition was not only absolutely necessary, but essential, and must be obtained.

### OFFENCES BY RAILWAYMEN WHILE ON DUTY.

The executive committee have passed a resolution expressing the opinion that the railway companies have no right to inflict punishment upon their employees for offences committed when off duty, and instructing the general secretary to report such cases. In any case which, in his opinion, is a serious one he is to "take such steps as shall secure to the member concerned all the ordinary rights and liberties of the British subject."

### BANK RETURN.

The return of the Bank of England for the week ended Wednesday, October 15, compared with that for the previous week, shows the following changes:—

Oct. 16, 1912.	BANKING DEPARTMENT.	Oct. 8, 1913.	Oct. 15, 1913.	Increase.	Decrease.
£	Liabilities	£	£	£	£
3,183,800	Res. ....	3,160,502	3,164,378	3,576	—
9,339,011	Public Deposits ..	9,300,000	9,310,825	—	652,340
46,700,000	Other ..	44,314,915	44,763,006	547,091	—
39,318	7 Day Bills ..	26,717	32,955	12,238	—
	Assets			Decrease.	Increase.
11,607,000	Govt. Securities ..	14,488,105	14,488,105	—	—
33,505,912	Other ..	26,243,489	24,773,127	7,500,302	—
25,933,375	Notes ..	21,395,995	20,908,493	—	692,040
1,454,291	Gold and Silver ..	1,004,711	1,593,898	—	59,157
				1,313,597	1,313,567
27,387,666	Reserve ..	24,000,700	25,591,933	Increase.	Decrease.
48,74 p.c. Ratio ..	52,74 p.c.	52,74 p.c.	54,30 p.c.	—	—
1 p.c. Bank Rate ..	p.c.	p.c.	4½ p.c.	—	—
1½ p.c. Market Rate ..	p.c.	p.c.	4½ p.c.	—	—
ISSUE DEPARTMENT.					
		£	£	Increase.	Decrease.
36,111,505	Cheque and Billions ..	34,177,620	34,304,830	216,010	—
54,000,000	Notes Issued ..	53,000,000	52,833,030	216,010	—
29,624,130	Circulation ..	31,240,000	28,811,000	—	1,860,440

**New London Suburban Railway.** The London Underground Railways' Combine have begun the work of extending the District Railway from Winton to Sutton, which at present only extends to London, Brighton and South Coast Railway and by a tramway running to Croydon. The new line will pass by Crystal Palace, Wimbledon, Streatham and the bus station at Mitcham, and will be constructed adjacent to the main line where the All-England tournaments are held. There will also be stations at Mitcham, Morden and one or two other places before reaching Sutton, the length of the railway being 8½ miles, making the total distance from Sutton to the Mansion House about 16 miles.

## TRACK-LAYING MACHINE FOR USE IN AUSTRALIA.

It has been announced that a track-laying machine will be used to expedite the construction of the Trans-Australian Railway from Port Augusta to Kalbarri, connecting Western Australia with the Eastern States. The tracklayer, as it is termed, was first introduced in Canada and the United States, but outside of America its use has been limited to one or two sections of the Trans-Siberian Railway. The machine is mounted on a truck at the head of a train. In front of the truck is a lofty rectangular scaffolding of rigid construction, strongly braced and supported. A jib runs forward from the bottom of either leg to meet at the outer extremity and forms a derrick. The truck also carries a number of small steam engines, each of which has its own special work to perform, while high up on the rectangular structure is a small bridge. Here is stationed the man in control of the machine.

The bridge faces the grade to be railed, and the projecting boom overhangs the track. Immediately behind this vehicle

are picked up by booms from the trucks behind the tracklayer, swing round through the air, and guided into the correct position. The men on the trucks, who are standing on the sleepers, have slipped the bolts into the fishplate connecting the new rail to its fellow already in position, and the tracklayer is moving forward again some thirteen or sixteen feet over a new unit of track. Sleepers in the meanwhile are rapidly conveyed to the front by the rollers in the trough from the cars behind.

When the tracklayer has passed the line presents a bedraggled appearance. The sleepers are symmetrical and the line true to gauge, but it is twisted strangely. In this skeleton form, it is passable so long as trains proceed slowly and carefully. It offers a means of enabling supplies to be forwarded more quickly to the front than any other known methods.

The men become almost part of the machine in the precision with which they have to work. There can be no pause or



Track-laying Machine Used on the Grand Trunk Pacific Railway.

come several trucks piled with steel rails, fishplates, spikes, and other essentials. Then there is the locomotive, followed in turn by a long train of trucks laden with sleepers. On the right-hand side of the train, and level with the deck of the trucks, extends a continuous trough, or mechanical conveyor, with its floor consisting of rollers. It reaches from the rear-most car of the train to 40 or 50 feet ahead of the tracklayer, the overhanging or advanced section being sustained by ropes and tackle controlled from the truck which carries the tracklayer. By this arrangement the trough can be raised and lowered as desired.

When a length of track is to be laid the engine pushes the fore part of the train slowly forward until the end of the rail last laid is approached. The rollers in the trough are then set in motion. Gangs of men stationed on the rear trucks throw the sleepers into the trough, where they are carried by the rollers to the front of the train, and deposited on the ground in a regular stream. As each one leaves the trough it is picked up by men who place it into position on the grade. Other men place the sleepers at equal distances apart. When thirty

diminution in the speed at which work proceeds. The only respite is when the trucks have been emptied of rails or sleepers, or when the men have to stop for a short time at meal times, or the end of the day. In America races are held from time to time with the tracklayer have become a feature, and the men engaged on the different machines employed are always on the look out to set up a new record.

In a statement submitted to the Commonwealth House of Representatives in September, the Prime Minister said that the construction of the railway from Port Augusta to Kalbarri would be pushed on as rapidly as possible, and that the question of using the contract system in the construction of the railway was being considered.

The Brennan Motor Rail System.



## SOUTH AFRICAN RAILWAYS.

THE following report, Mr. W. W. Hoy, general manager of the South African Railways and Harbours, for the year ended December 31, 1912, has now been issued. As usual, it is a bulky document, entering in great detail into every point relating to finance and management, while there are appended reports by the engineer-in-chief, the chief mechanical engineer, and the chief railway storekeeper in regard to the working of their departments.

In his general observations Mr. Hoy says that notwithstanding the severe drought there was a substantial increase in the number of passengers and the tonnage of goods. In spite of the large reductions in fares the passenger receipts have continued to advance, although not in the same proportion as the number of travellers, so that it is necessary to compare an increase of 11.5 per cent. in the number of journeys with an increase of 7.47 per cent. in the earnings. The goods receipts have been affected by the very substantial rate reductions and the constant displacement of over-sea import trade by that of South African production. The revenue-earning tonnage increased by 6 per cent., but the earnings decreased by 1 per cent. The manager next refers to the passing last year of the Railways and Harbours Service Act, and in connection with that he says that he knows of no railway in the world where the conditions of service are so elaborately set forth, where the rights of the employees are so fully safeguarded, or where such generous superannuation provision is made. Over £681,000 per annum has been granted in increments to the staff since the Union, but the clamour of people who claim to represent the employees for further concessions and their concurrent hostility to the introduction of any system which secures efficiency continues unabated. Unremitting care is necessary to prevent the department being utilised as a forcing house for Syndicalist theories.

Mr. Hoy complains of the cumbersome system of the financial administration followed on the railways, which has had the effect of causing a considerable amount of duplication of work. There should be better co-ordination of executive control. In regard to provision for renewals, it has again been found impracticable, owing to financial considerations, to allow for full contributions at the rates at present in force. He trusts that whatever scale is agreed to by the Departmental Committee now sitting, it will be adhered to.

The capital expenditure on the railways during the year amounted to £1,990,972, bringing up the total to £81,272,325. The average cost, including rolling stock equipment, for open lines for the year was 10s. 10d. per mile. The open mileage was 1,000 miles, and the total mileage, of which 7,082 miles were open, was 8,082 miles. The cost of the open lines was £1,990,972, or 10s. 10d. per mile, compared with the previous year. During the recent session of the Union Parliament 79½ miles of new lines were authorised, and the total length of the line was 8,161½ miles, being an increase of 10.39 per cent.

The following statement shows, in summarised form, the results of working of the railways (as distinct from harbours) for the year ended December 31, 1912, compared with the previous two years.

The most striking feature of the results of working has been the extraordinary increase in the passenger earnings year by year since the Union, notwithstanding the very substantial

The ordinary working expenditure therefore, exclusive of the contributions to renewals fund and of the special expenditure on relaying, strengthening, etc., increased by £438,858, or 7.17 per cent.

The ratio of expenditure to earnings, exclusive of relaying, strengthening, and renewals, was 53.52 per cent. compared with 50.53 per cent. in the previous year. The expenditure under relaying, strengthening, etc., represents the labour charges. The cost of the material is met from the betterment and renewals funds. The surplus of earnings over working expenses and renewals was £4,373,683, to which is added £161,687, being interest on investments and miscellaneous earnings, giving a total of £4,535,370. From this is deducted £2,609,276, nearly all of which is interest on capital, the remainder being charges for lines leased and miscellaneous items. The net credit balance, therefore, carried to revenue distribution account is £1,866,094. Out of this, £239,915 was required to meet the net loss on harbours, while of the remainder £587,500 was contributed to the betterment fund, £70,000 to the rates equalisation fund, and £417,077 to the consolidated revenue fund, leaving a balance of £551,602.

The passenger receipts amounted to £3,368,347, an increase of £230,047. The number of passengers was 41,450,491, being an increase of 4,284,794, or 11.5 per cent. The tonnage of goods and minerals amounted to 13,858,918 tons, being an increase of 1,040,607 tons, while the revenue from this traffic amounted to £7,872,719, being a decrease of £77,783, mainly due to the reductions in rates. The live stock revenue was £388,080, or practically the same as in the previous year, but there was a considerable increase in the number of head carried, the total being 3,012,534, an increase of 302,703. The total reductions in rates and fares since the date of the Union are estimated to amount to £1,336,500. There are distinct signs that this policy of the Administration is stimulating the industrial element of the country.

## FUTURE DEVELOPMENTS.

Preliminary inquiries have been made as to the probable cost of replacing steam by electricity as the motive power on the Wynberg and Sea Point lines in the Cape Peninsula and on the Springs-Kandfontein line on the Rand and on certain sections in the Transvaal and Natal. While further and more exhaustive investigation is necessary before any definite opinion can be expressed, it is evident that the advisability of adopting electric traction on the lines mentioned is worthy of serious consideration.

Some difference of opinion appears to exist as to the relative merits of the single-phase system and the direct-current system, and as to whether the Administration should, in the event of conversion, purchase or generate its own current, but these are matters on which the best advice can be obtained. The cost of current, however, is the great consideration, and if public bodies are prepared to co-operate with the Administration for the supply of power on reasonable terms so as to reduce the cost, the result should be advantageous both to them and to the Administration.

There are no engineering difficulties in the way of conversion. The change-over would involve additional capital expenditure, but as against this the wages bill of the running staff, the track maintenance expenditure and the cost of the work of the terminal station would be reduced considerably, while the increased comfort and convenience of passengers and the greater expedition of trains will here, as in other countries where electric trains have taken the place of steam trains, attract additional traffic. The increased traffic on the Cape Town-Simonstown line will not only result in the revenue being invariably much in the public's favour, but it will also result in important reductions in the relative costs of steam and electric traction, as the present cost of the railway is not so great as the cost of the electricity required to run it, and the cost of the electricity is not so high as the cost of the steam fuel.

It should not be overlooked, however, that the earning of the railway is not the only consideration in the matter of conversion. The cost of the conversion is a very important factor, and it will be probably found possible to purchase the power necessary for the conversion at a very low rate.

The present difficulty of electricity in the area near the Port of Cape Town, the long line, from the coast to the interior, is comparatively expensive. On the Rand, all the cost of the power is met by the Government, and it will be probably found possible to purchase the power necessary for the conversion at a very low rate. The present difficulty of electricity in the area near the Port of Cape Town, the long line, from the coast to the interior, is comparatively expensive. On the Rand, all the cost of the power is met by the Government, and it will be probably found possible to purchase the power necessary for the conversion at a very low rate.



of the London Railway, through which only a single line is available, and which has less than 1,000,000 tons per annum of traffic, is the limiting factor in the development of the London and South-Eastern Railway, and inadequate terminal facilities in Calcutta.

The London and South-Eastern Railway is an unparalleled instance of "monumental folly" in providing, in the case of London, with an unsurpassed system of railway facilities, a single line bridge for a probable traffic less than that of a single line of rail, and for a single line of rail, of a capacity of 2,500,000 tons in excess of that for which it could have been built.

### SOUTH AFRICAN RAILWAY GRIEVANCES COMMISSION.

The Commission of Inquiry into the grievances of railway workers of the South African Government Railways began its sittings on October 13 at Johannesburg. The matters to be considered include the immediate introduction of an eight hours day, a minimum wage for white employees from 8s. upwards per diem, the revision of local allowances, the abolition of piecework, the decentralisation of management, and other matters connected with pay.

The three members of this Commission are: Mr. Justice Ward (chairman), one railway servant appointed by the Government, and a third not connected with railways, selected by the European railwaymen by ballot.

At the same time the first sitting was held of the Commission of Inquiry into wages, working hours, and cost of living in various centres of South Africa, and also into the question of a minimum wage, under the chairmanship of Mr. Sydney Chapman, Professor of Political Economy in the University of Manchester.

In connection with the proposed retrenchment on the railways necessitated by the decrease in overseas traffic, on account of industrial unrest, Mr. Poutsma, general secretary of the Railwaymen's Society, applied to Mr. Burton (Minister of Railways) to grant him an interview as representing the railwaymen. According to Mr. Poutsma, Mr. Burton declined to receive him. Mr. Burton, in a statement on the subject, declares that he is willing to receive any deputation of railwaymen, provided he is approached through the proper channel.

The Johannesburg Chamber of Commerce has issued a statement maintaining that the shrinkage of the railway revenue, which the Government gives as a reason for the retrenchments, is due to no shrinkage of trade, but to the reductions of railway rates, and that, in reality, on this basis the revenue is much larger than it was estimated it would be to cover traffic and coal traffic alone. The Administration says the statement, are £100,000 better off for the past nine months than was estimated.

### WEST AUSTRALIAN RAILWAYS.

The report of the West Australian Railways for the past financial year shows that the capital cost is now £4,913,128, the miles worked being 2,783. The earnings amounted to £2,037,853, while the working expenses totalled £1,506,600, and the interest absorbed £505,025. The number of train miles run was 5,023,132, the surplus of earnings over working expenses and interest amounting to only £2,250. The report also shows that the previous year shows the same surplus of earnings over working expenses and interest, but the surplus was only £1,000. The report also shows that the surplus of earnings over working expenses and interest in the net surplus of earnings over working expenses and interest.

**Train Control and Railwaymen's Lodgings.** The report also shows that the railwaymen's lodgings are in a state of disrepair, and that the railwaymen are being asked to pay for the cost of the lodgings. The railwaymen have agreed to cooperate with the other centres involved. A protest meeting is to be held at Edinburgh in connection with the railwaymen's lodgings.

The railwaymen have agreed to cooperate with the other centres involved. A protest meeting is to be held at Edinburgh in connection with the railwaymen's lodgings.

## MEETINGS AND REPORTS.

### FORTHCOMING MEETINGS.

Oct. 20 (Tue.)	Barsi Light Railway (Annual), Winchester House, E.C., at 2.
Oct. 21 (Tues.)	Buenos Ayres Western Railway (Annual), River Plate House, Finsbury Circus, E.C., at 12.
Oct. 21 (Tues.)	Central Uruguay Railway of Monts Video (Annual), River Plate House, E.C., at 2.30.
Oct. 21 (Tues.)	Central Uruguay Eastern Extension Railway (Annual), River Plate House, E.C., at 2.30.
Oct. 21 (Tues.)	Central Uruguay Northern Extension Railway (Annual), River Plate House, E.C., at 2.30.
Oct. 21 (Tues.)	Nizam's Guaranteed State Railways (Annual), Winchester House, E.C., at 3.
Oct. 22 (Wed.)	Buenos Ayres Great Southern Railway (Annual), River Plate House, Finsbury Circus, E.C., at 12.
Oct. 22 (Wed.)	Mold and Denbigh Junction Railway (Half-yearly), Palmerston House, Bishopsgate, E.C., at 3.
Oct. 22 (Wed.)	United Railways of the Havana and Regla Warehouses (Annual), Winchester House, E.C., at 12.
Oct. 22 (Thurs.)	Central Argentine Railway (Annual), River Plate House, Finsbury Circus, E.C., at 12. Followed by an Extraordinary Meeting.
Oct. 23 (Thurs.)	Grand Trunk Railway (Half-yearly), Cannon Street Hotel, E.C., at 12.
Oct. 23 (Thurs.)	Paraguay Central Railway (Annual), Salisbury House, London Wall, E.C., at 12.
Oct. 24 (Fri.)	San Paulo (Brazilian) Railway (Half-yearly), Cannon Street Hotel, E.C., at 12.30.
Nov. 1 (Fri.)	London, Chatham and Dover Railway (Extraordinary), Victoria Station, Pimlico, S.W., at 12.

*Report, Income Return, Profit and Loss, and all other financial intelligence should be sent as early as possible to the Editor of THE RAILWAY TIMES, 12, Norfolk Street, London, W.C. (Telephone 2948 General). Telegrams: "Railway Times," London.*

### GRAND TRUNK RAILWAY OF CANADA.

The directors, in their report for the half-year ended June 30, 1913, give the following comparison of the half-year's revenue account with that of the corresponding half-year ended June 30, 1912:—

	1912.	1913.
Gross receipts .. .. .	£4,305,017	£4,311,428
Deduct:		
Working expenses, being at the rate of 44.96 per cent. as compared with 72.85 per cent. in 1912 .. .. .	2,972,002	2,994,289
Net traffic receipts .. .. .	1,158,525	1,117,142
Balance of income from rentals, outside operations, and car mileage .. .. .	Dr. 77,014	Do. 100,000
Total net revenue .. .. .	1,081,511	1,017,142
And:		
Amount received from the International Tinne Company .. .. .	100,000	100,000
Interest on Loan of Central Vermont Railway .. .. .	100,000	100,000
Interest on securities of controlled lines and on St. Clair Tunnel bonds acquired by the Grand Trunk Railway .. .. .	100,000	100,000
Balance of interest account .. .. .	100,000	100,000
Net revenue receipt .. .. .	1,081,511	1,017,142

The following are the net revenue charges for the half-year, compared with the corresponding period, viz.:—

	1912.	1913.
Rents (leased lines) .. .. .	100,000	100,000
Interest on debenture stock and bonds of the company .. .. .	100,000	100,000
Interest on debenture stock and bonds of lines consolidated with the Grand Trunk Company .. .. .	100,000	100,000



deficiency ..  
 Detroit, Grand Haven, and Milwaukee Railway deficiency ..

At the end of the half-year, the total amount available for dividend is £411,911, from which the directors recommend the payment of the following dividend:

leaving a balance of £16,026 to be carried forward to next half-year's account.

The following table exhibits a comparison of the receipts for the half-years ended June 30, 1913 and 1912.

Description of receipts.	1913.	1912.	Increase.
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574

#### TRAFFIC STATISTICS.

	1913.	1912.	Increase.
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574
Freight ..	1,018,824	876,250	142,574
Passenger ..	1,018,824	876,250	142,574

The average rate per ton per mile on the entire freight business was 0.69 of a cent, compared with 0.68 of a cent in the corresponding half-year.

#### WORKING EXPENSES.

The working expenses, excluding taxes, amounted in the half-year to £3,149,262, or 72.14 per cent. of the gross receipts, as compared with £2,748,575, or 71.68 per cent.; an increase in amount of £400,687, and in the proportion to the gross receipts of 0.46 per cent. The following table exhibits a comparison of the revenue expenditure, including taxes, for the half-years ended June 30, 1913 and 1912:—

	1913.	1912.	Increase.
Maintenance of equipment ..	570,000	570,000	0
Conducting transportation ..	1,885,781	1,885,781	0
Total ..	2,455,781	2,455,781	0
Expenditure per train-mile ..	79.68d.	79.68d.	0

The train mileage of the half-year compares with that for the half-year ended June 30, 1912, as follows:—

Description of mileage.	1913.	1912.	Increase.
Freight ..	1,529,055	1,529,055	0
Passenger ..	1,529,055	1,529,055	0
Total ..	3,058,110	3,058,110	0

From the foregoing statements it will be observed that the gross receipts for the half-year show an increase of £531,300, or 13.86 per cent.; the working expenses including taxes, an increase of £413,827, or 14.82 per cent.; and the train mileage an increase of 729,878, or 7.12 per cent.

The following are the charges to capital account for the half-year:—In respect of controlled lines under Acts of 1911 and 1912—Lachine, Jacques Cartier and Maisonneuve Railway, £28,125; Grand Trunk Western Railway for acquisition of \$322,000 first mortgage bonds, £60,201; Grand Trunk Pacific Development Company's notes, £529,034. On the Grand Trunk Railway proper:—New works, £60,701; new rolling stock, £455,020; new machinery and tools, £3,750; land purchased, £118,782; discount and commission on 4 per cent debenture stock and 4 per cent. guaranteed stock sold during the half-year, £55,950—together, £1,311,970. Less:

Amount reserved for maintenance of capital ..  
 Working expenses ..

#### ROLLING STOCK.

added to the official stock and charged to capital during the half-year. During the half-year six engines were scrapped, and one steam derrick was built in the company's shops; 41 Pacific type passenger engines, 25 Mikado type freight engines, 15 switch engines, 1,570 box cars, and 12 refrigerator cars were purchased on revenue account.

The following summary shows the results of the half-year's working of the Grand Trunk Western Railway compared with the corresponding period of 1912:—

	1913.	1912.	Increase.
Net traffic receipts ..	2,817	2,817	0
Balance of income from rentals, out-	2,817	2,817	0

The interest charges for the half-year were £65,754, against the same amount in 1912, so that there was a net revenue deficiency of £73,993, compared with £52,805 in 1912. The number of passengers carried during the half-year was 292,807 against 264,222, an increase of 28,585 or 10.82 per cent.; and the passenger receipts, including mails and express receipts, were £52,462, against £46,267, an increase of £6,195, or 13.39 per cent. The quantity of freight moved was 946,781 tons; against 876,250 tons in 1912, an increase of 70,531 tons, or 8.05 per cent.; and the receipts from freight traffic were £161,452, against £156,948, an increase of £4,504, or 2.87 per cent.

#### GRAND TRUNK WESTERN RAILWAY.

The following summary shows the results of the half-year's working of the Grand Trunk Western Railway compared with the corresponding period of 1912:—

	1913.	1912.	Increase.
Gross receipts ..	£757,222	£661,841	£95,381
Net traffic receipts ..	199,711	199,711	0
Balance of income from rentals, out-	199,711	199,711	0

The net revenue charges for the half-year were £122,452, so that there was a net revenue deficiency for the half-year of £69,482, and deducting therefrom the credit balance at December 31, 1912, of £46,585, there remains a net revenue debit of £22,897 at June 30 last, which amount is carried forward to the current year. The number of passengers carried during the half-year was 1,021,887, against 980,122, an increase of 35,875, or 3.64 per cent.; and the passenger train receipts, including mails and express receipts, were £231,680, against £214,366, an increase of £17,314, or 8.11 per cent. The quantity of freight moved during the half-year was 2,229,174 tons, against 1,823,578 tons, an increase of 405,606 tons, or 22.25 per cent., and the receipts from this traffic were £570,250, against £429,610 in 1912, an increase of £140,640, or 17.84 per cent.

The following summary shows the results of the half-year's working of the Detroit, Grand Haven, and Milwaukee Railway compared with the corresponding period of 1912:—

	1913.	1912.	Increase.
Working expenses ..	248,245	248,245	0
Balance of income from rentals, out-	248,245	248,245	0

The net revenue charges for the half-year were £30,081, against the same amount in 1912, so that there was a net revenue deficiency of £76,024 compared with £5,088 for the corresponding period of 1912. The number of passengers carried during the half-year was 308,104 against 283,248, an increase of 14,856, or 5.25 per cent., and the passenger receipts, including mails and express receipts, were £60,002,







### DEMERARA RAILWAY.

The 11th ordinary general meeting of the shareholders was held on Friday, October 17, at the Cannon Street Hotel, London, Mr. A. Robertson, D.L., Chairman of the Company, presiding.

The SECRETARY, Mr. Henry G. McMurdie, having read the notice convening the meeting, the Chairman affixed the seal of the company to the register of shareholders.

The CHAIRMAN said:—In meeting you to-day we are pleased to be able to present accounts to you which show that our traffics have been returning to their normal figure. A comparison with the corresponding half-year of 1912 does not give a proper view of the position, as I may remind you that during the first half of 1912 our traffics were much reduced, owing to the severe drought from which the Colony was then suffering; but a comparison with the corresponding half-year of 1911 shows that the receipts are slightly above that period. Passing over the capital account in which there is no change, you will observe from the report that the gross revenue is £23,406 os. 3d., against £20,907 3s., being an increase of £2,498 17s. 5d., or nearly 12 per cent. over the corresponding half year of 1912. Our gross expenditure, I regret to say, also shows an increase, the amount being £18,226 14s. 10d., as against £16,790 6s. 3d., an increase of £1,435 8s. 7d., or 8.5 per cent., and the balance amounts to £11,191 11s., as against £11,167 18s. 1d. The similarity in the amounts of the balances notwithstanding, the larger amount of business done is accounted for by the fact that in 1912 we carried forward into the half-year's accounts an unusually large amount to meet the anticipated shortness of revenue during the drought. Upon the whole system there was an increase during the half year of 20,095 passengers over the number carried in the corresponding period, and in goods carried there was an increase of 5,991 tons. On the old railway the increase in passenger receipts amounts to the sum of £567 os. 9d., and the increase under the heading of merchandise is £1,525 17s. Comparing with the corresponding half-year in 1911 the passenger receipts are down only about £100, but the merchandise receipts are actually up over £200. Parcels and miscellaneous traffic give us an increase of £78 18s. 11d., and live stock has also helped us to the amount of £51 1s. 6d., both as compared with 1912. Our expenditure on the old railway over all the items shows an increase of £1,117 13s. 9d., negating the increased receipts by practically one half. Maintenance of way and buildings shows an increase of £385 8s. 6d., but nearly the whole of this is made up of the proportion of the renewal of two turn tables and wharf repairs at Georgetown charged to this section, which cost practically £450, and which we have withdrawn from the renewal fund. Locomotive power is up £382 os. 6d. This is chiefly owing to the cost of fuel, for which we had to pay over 4s. 6d. a ton more than in the first half of 1912, and partly to an increase in the mileage of 2,562 miles. There has also, however, been a considerable increase in the consumption per tram mile, as to which we have issued definite instructions which we hope will have the effect of reducing the expense under this head. Carriage and wagon repairs show a substantial increase of £130 14s. 3d. owing to larger repairs and renewals than usual being executed during the half-year. Traffic expenses are up owing to the larger amount of business done, and I do not think I need comment upon the other items of the account, which show a small increase over the corresponding half year, but decreases as compared with 1911, with the exception of rates and taxes, which are up owing to increased rates in Georgetown. On the Berbice section our passenger receipts are up £1,000, and the number of passengers having fallen 3,838. To find a result like the present one in a corresponding half-year we have to go back to 1907. The traffic on the Berbice Railway has, however, steadily improved since its opening, and we find that the increase is probably, in other respects, due to the fact that the section has been open for a longer period. On the other side of the account, notwithstanding the renewal of the turn tables at Georgetown, the cost of maintenance of way, etc., of which this section bears a proportion, we have a decrease of £118 13s. 3d. in the item of maintenance of way, etc., and there is a slight decrease under locomotive power, the higher cost of fuel being off-set by a reduced mileage of 2,105 miles. Going on now to the West Coast Railway, we have

an increase in the number of passengers of 6,120, with a substantial increase in the receipts of £483 17s. 2d. You may remember that last year we slightly raised the fares on this section from the unprofitable level to which we had to reduce them at the time of the motor omnibus competition. The fares are not back to the old figure, but the compromise which has been made seems to have hit the mark, and at present, at all events, we have no intention of making any further alteration. The item of merchandise shows an increase of £110 2s. 6d., but parcels and miscellaneous traffic are down a trifle. Unfortunately, on this section the increased expenditure has neutralised to a great extent the increased receipts. Maintenance of way, &c., is up £244 9s. 10d., chiefly owing to the extensive repairs and painting of Vreed-en-Hoop station. Locomotive power is up £178 7s. 7d., due to the causes I have already alluded to. Traffic expenses and general charges are also slightly up, and the only reductions we can notice on this section are in the carriage and wagon department and in compensation for accidents. The balances from the three sections are carried into the net revenue account, which is credited with the withdrawal from the renewal fund of £451 os. 9d., being the cost of renewing the two turn tables and wharf repairs, &c., at Georgetown terminus. There is also taken into this account the balance from last half-year, and the Government subsidy and the debenture interest is likewise included and we then have an available balance of £11,191 11s. This falls to be applied in the first instance in payment of the dividend for the half-year at the rate of 4 per cent. per annum on the 4 per cent. extension preference stock, and we recommend that the remainder should be dealt with by payment of a dividend at the rate of 7 per cent. per annum on the 7 per cent. preference stock, and of a dividend for the half-year at the rate of 3½ per cent. per annum on the preferred ordinary stock, carrying forward to next half-year £353 1s. Down to the present time we have not had intimation that the ordinance confirming the contract between the Government and the company for the construction of the short extension to Parika has been passed, but we expect this news daily. Meantime, the necessary survey and preliminary work has been completed, and, as mentioned to you at the extraordinary general meeting held here on July 31, it is intended to have the extension in operation by July 1 next. Before I sit down I wish to record our regret at the death of Mr. John Bourke, a member of the local committee in Demerara. Mr. Bourke had only been a member of the Committee for a short time, but we feel that the company has lost a wise and capable adviser. We have appointed the Hon. Carl F. Wieting, of Georgetown, a member of the Court of Policy, to fill one of the vacancies caused by the deaths of Mr. Garnett and Mr. Bourke, and under the provisions in the Company's Ordinances we have also appointed the company's general manager, Mr. Roy, to fill the other vacancy in the meantime.

I now beg to move:—"That the report of the directors and the half-yearly statement of accounts to June 30 last, which have already been circulated amongst the proprietors be and they are hereby received and adopted."

Mr. E. B. READ: I beg to second that.

The CHAIRMAN: I shall be pleased to answer any questions. (No response.) Then if there are no questions I will put the resolution to the meeting.

The resolution was accordingly put, and carried unanimously.

The CHAIRMAN: The next resolution is:—"That the following dividends be paid, subject to Income Tax, on the 31st instant, for the half-year ending June 30 last: On the 4 per cent. extension preference stock at the full rate for the half-year; on the 7 per cent. preference stock at the full rate for the half-year; and on the preferred ordinary stock at the rate of 3½ per cent. per annum."

Mr. A. MATHIAS SMITH: I have pleasure in seconding that the resolution was put and agreed to unanimously.

The CHAIRMAN: Gentlemen we are very much obliged to you for your attendance.

Mr. G. STANLEY: You have not made any remark as to the current half-year's traffics.

The CHAIRMAN: Well in previous years we have proposed to avoid that, because we never know what is going to happen, and anything I might say now might be misleading; but up to the present time the traffics are very satisfactory for the



## GENERAL NEWS.

### PROPOSALS FOR NEW RAILWAYS AND ROLLING STOCK.

**IRISH RAILWAY PROGRAMME.**—The amendment was made on October 13 that it has been provisionally settled that the railway annual programme shall be fixed at £12,000,000, provided borrowing to the extent required proves feasible.

**CHIL.**—The Committee of Public Works of the Chamber of Deputies has presented a report recommending the raising of a foreign loan amounting to £5,300,000 for the development of the railways. Extensive double tracking is proposed, not only between Valparaiso and Santiago but also on the central line which has become too crowded to deal with the traffic brought by the branch lines. Other proposals include the strengthening of bridges; the introduction of modern systems of signalling to permit of the speeding-up of trains; the provision of automatic couplings; increased rolling stock, both locomotives and trucks; and the provision of up-to-date workshops and facilities for the storage and handling of coal.

**NEW SOUTH WALES.**—The Public Works Committee of the New South Wales Parliament has recommended the construction of several new railways. The total amount expended in connection with the construction of the North Coast railway up to June 30 amounted to £2,144,500. There were then 3,318 men employed on the different sections. The construction of the railway to the Australian Federal Capital is being carried out by the Public Works Department of New South Wales under arrangement with the Commonwealth. The arrangement provides that the Federal Government shall pay all costs in connection with the work, plus a commission of 5 per cent. on the total cost of the line.

**COLOMBIA.**—The Congress has approved the scheme for the construction of the Nedinell railway.

**NORTHERN AUSTRALIA.**—A contract has been let by the Minister for External Affairs to Messrs. Lawrence and Chalmers, of South Australia, to carry out railway surveys in various parts of the Northern Territory. One of the suggested lines is from a point on the Trans-Australian railway between Port Augusta and Oodnadatta to Coward Spring. The headquarters of the party will be at Newcastle Waters.

### RAILWAY ASSESSMENTS.

#### PROPOSALS FOR THE LONDON AND SOUTH WESTERN COMPANY.

Mr. J. C. Mortimer, rating agent for the London and South Western Railway Company, appeared before the Brentford Union Assessment Committee on October 10 in the appeal of the company against the assessment of its property in the Brentford district. He urged that the value should be based on the receipts, less working expenses, and that the balance should be taken as rent. The company had been granted big reductions in other parts of London. There had been a big decrease in the receipts, and an increase in the working expenses, both goods and passengers. The third-class traffic had gone down a lot, and the others in proportion. The receipts were 20 per cent. less than formerly. There had been 30 per cent. increase in the cost of wagons and carriages, and 20 per cent. more renewals to their rolling stock. There had been a 10 per cent. increase in the cost of stations, and engines now cost from £3,000 to £4,000 each, though it was fair to add more work was got out of them. He had taken the figures since 1911. By the cessation of the City and Richmond traffic, the company had lost a valuable asset. It used to receive a regularly paid toll, but that had been lost. Insurance cost the company £20,000 a year, and there had been an increase in wages. The dividends, too, had gone down. The assessment of the company's property, railways and stations now was £28,240, and he asked for a reduction to £20,000 which he would like to see in a company without prejudice to accept.

In reply to an inquiry by the Chairman Mr. G. Charles, whether that figure would be a tentative one, in view of the coming electrification, Mr. Mortimer replied that certainly it would be. If the profits went up, of course the committee could reduce the rating, or otherwise then the company would know what to do.

Replying to an observation that the company was charging higher rates for carrying, Mr. Mortimer said that before they could do that they had had to raise the salaries. The new Rates Act had been in force only since July last, and it would take a year to see its effect.

The Chairman urged that no figures were given for 1912.

Mr. Mortimer said that he could give them, but if he did he should want £2,000 more off.

The Chairman: Because of the strike?—Yes.

The committee decided to fix the assessment at £22,600 for the whole union.

#### GREAT NORTHERN AND MIDLAND RAILWAYS (IRELAND).

The hearing of the appeals brought at the previous sessions by the Great Northern Railway and the Midland Railway in connection with valuations on their lines running through local areas was resumed by the Belfast Recorder on two days this week. Among the witnesses was Mr. Glover, the locomotive superintendent of the Great Northern, who stated that the locomotive expenses on the whole railway for 1911 were £201,810. The entire value of the engines—191 engines and 7 motors—on the Great Northern lines, at the end of 1911 was £466,222. An engine could not now be bought for £2,000. The highest figure paid for an engine by his company was £3,850. In England over £4,000 was frequently paid for an engine.—On October 13, it was announced that an arrangement had been made between Belfast Corporation and the Great Northern Company under which the latter will make an increased yearly payment of about £500 to the city rates annually for five years. The Midland appeal will be heard in November.

### NEW SOUTH WALES RAILWAYS.

The Chief Commissioner (Mr. T. R. Johnson) has presented to the State Government his report on the working of the railways for the year ended June 30, 1913. The report shows a surplus, after meeting all charges, of £154,448. The principal figures are as follow:—

		Increase over last year.
Revenue	£1,748,085	£237,512
Expenditure	£1,644,881	£475,200
Passengers carried	79,490,012	8,783,284
Tonnage	11,666,250	755,697
Train mileage	19,184,247	662,927

During the year 101½ additional miles of railway were opened for traffic, making the total mileage in operation 3,930; 534½ miles are under construction, and a further 636 miles have been authorised. There are at present nearly 75 miles of duplication and deviation in hand, and the work of duplicating the main lines has been energetically proceeded with, although considerably hampered last spring by the non-arrival of material and towards the close of the financial year by inclement weather. The increasing railway business of the State has been well sustained, and the prospects for the ensuing season are excellent.

The increased railway working expenses have been very largely caused by the extra cost of wages and salaries due to the awards of Wages Boards and the operation of the Industrial Arbitration Act, as well as to the improved classifications granted to the technical and clerical staffs, the total increase in expenditure under these heads being £222,875. A considerable increase in wages will be incurred during the current year owing to Wages Board awards, and, from the commencement of the new financial year, season ticket fares and certain goods rates have been increased to provide additional revenue to meet the anticipated increase in working expenses.

The provision of safety appliances throughout the system has been continued. A special feature is the installation of 7 miles 26 chains of track block and automatic signalling between the Redfern tunnel signal box and Sydenham Junction, this being the first automatic signalling introduced into Australia. During the year there were no train accidents resulting in the loss of life of any passenger.

On June 30 there were 988 engines in stock, the total tractive power being 21,558,351 lbs., and that per engine 21,602 lbs. The coaching stock consisted of 1,775 vehicles, their carrying capacity being 74,328 persons; the goods stock numbered 19,153 vehicles, with a carrying capacity of 213,250 tons.



## STALYBRIDGE COLLISION ATTRIBUTED TO A BOY.

Reporting to the Board of Trade the result of his inquiry into the causes of the collision which occurred on a Saturday between a passenger train and a goods train at Slatybridge on the London and North Western Railway, L. C. Druce states that the 11.45 a.m. passenger train from Leeds to Llandudno, when entering the tunnel approaching Slatybridge No. 4 signal-box, collided with the brake-van of a goods train travelling in the same direction. The front and rear bogies of the goods train were broken up, and the rear pair of wheels of the leading bogie of the passenger train were bent. The collision was entirely due to the irregular action on the part of the telephone boy, who had accepted the Llandudno express. The signalman had not been allowed to turn off the four signalmen who work in this box to work the block instruments, and the boy, who was not allowed to go against the rules to do so, as the fourth signalman had told him that it was not his job and that he was not to go near the instruments. Signalman Potter, however, denies that he had ever allowed the boy to work the block instruments for him, and states that on this occasion he did not notice what the boy was doing until the Llandudno express had been accepted. But as he was close alongside the boy at the time, it is difficult to understand this. The boy's duties were solely to attend to the telephones, and he was not supposed even to book the trains, but he had evidently been allowed to work the block instruments by some of the signalmen in this box or he would not have taken on himself the responsibility of doing so on this occasion, or known how to send the bell signals. This accident shows the necessity for observing the rule that no unauthorised person must interfere with the instruments and telephones in a signal-box.

## THE BRIGHTON WEEK-END TICKET CASE.

In the City of London Court on Tuesday, the London, Brighton and South Coast Railway applied to Judge Lumley Smith for a new trial or leave to appeal in the case where the Assistant Registrar gave judgment for Mr. H. Cohen, a Liverpool merchant, who is alleged to have obtained a return ticket, which, contrary to the company's regulations, he used for the return journey on a Saturday.

The Judge pointed out that the Assistant Registrar had given leave to appeal, but some doubt was raised as to the jurisdiction of the Assistant Registrar, and the company wanted leave from the Judge.

For Mr. Cohen it was urged that the application for a new trial was too late, and further that Mr. Cohen had notified the Court that he abandoned his judgement and costs.

Counsel for the company said Mr. Cohen, having obtained a judgment which he knew was wrong and could not be upheld, was bound to present himself in the Court to defend his position as a principle, and now wanted to run away when he knew he would lose if he went on. The decision had done the greatest possible mischief, and the public would defy the company's regulations unless it was reversed.

The Judge pointed out that despite the decision the company could refuse to bring people back on Saturdays. Without expressing any opinion on the decision he thought it was not a case where he could enlarge the time for applying for a new trial, but the parties could still appeal on leave given by the Assistant Registrar. He refused Mr. Cohen's application for costs.

## COLLISION IN A LIVERPOOL STATION.

The Cheshire Lines express which left Liverpool Central Station for Manchester at 2.30 on Wednesday, while detained in St. James's Station, was run into by the 2.35 Midland express, also from the Central Station, for Stockport and St. Pancras. The two rear coaches of the stationary train were telescoped and reduced to wreckage, and the end of the third coach was smashed in. The two last coaches were occupied by foreign passengers brought over by the *Campania*, and bound mostly for the Continent. Six persons were killed and about 30 injured.

One of the passengers has stated that while the train was passing through the tunnel a fellow-passenger pulled the communication cord. This led to the train being stopped, and it is suggested that the smoke and steam in the tunnel probably put the red light of the signal out of view of the train which followed on and finally crashed into the stationary express. The latter train, which included a thorough carriage for passengers travelling to the Continent via Harwich, was barely clear

of the tunnel when the collision took place. The goods train was approaching St. James's Station from the opposite direction. The fireman of the Manchester express, realising the danger from the oncoming train, ran down the line and fixed a detonator to it. The train ran over it, and the explosion attracted the attention of the driver, who immediately pulled up his train.

A witness said the story as to the 2.30 p.m. train having been delayed by the collision was likely enough, but the probability was that the man who caused the accident. He continued, "Nor would it be sufficient to have the signalman's lights. The real question is as to why the 2.35 train should have been allowed to leave the Central Station before the 2.30 train was out of the same section. There is only one section between the Central Station and St. James's."

In the official list of the killed appears the name of Mrs. Owens, of London, daughter of the late Sir Charles Scott, chairman of the London and South Western Railway Company, and sister-in-law of Mr. Young, accountant, Cheshire Lines Committee.

At the Board of Trade inquiry held yesterday by Colonel Druitt, the signalman admitted that the accident was caused by confusion between himself and the telephone booking boy. He allowed the boy to work the signals on his instructions.

## PERSONAL.

Mr. T. McNeil has been appointed agent for the Canadian Pacific Railway Company at Liverpool (succeeding the late Mr. F. W. Förster), and Mr. W. D. Grosset at Antwerp, succeeding Mr. T. McNeil.

Mr. Wilson Fox and Lieut. Colonel the Hon. Everett Raring, C.A.O., Trust, Limited, the Rhodesia Railways, Limited, and the Midland Railway.

Mr. G. C. I. Stuart, of the Manchester Corporation electricity station of the Victoria Falls and Transvaal Power Co., has Argentine Railway, Ltd., Buenos Ayres.

Mr. Charles F. Ward, for 37 years goods manager and agent for the Great Eastern Railway at Yarmouth, who is retiring after 50 years' service, has been presented with a gold chain with a gold watch by the fish merchants at Yarmouth.

Mr. Alex. Hannan, who has retired from the position of general agent for the Midland Railway in Scotland after 50 years' service, has been presented by his colleagues of the Hannan received a jardiniere of royal crown Derby china.

Mr. E. K. Bayliss, clerk-in-charge of the inwards correspondence, after 22 years' service, and intends to take up farming in Australia.

Mr. Collingwood Schreiber, consulting engineer to the Dominion Government, has left Toronto for the West to inspect the Grand Trunk Pacific. Although he is 82 years old, he intends, the *Times* correspondent states, after proceeding as far as he can by railway, to go 150 miles on foot through the mountains until he reaches the section under construction eastward from Prince Rupert.

Colonel C. S. Denniss, general manager, Cardiff Railway Company, responded on behalf of Lord Bute and the company to the toast of the visitors, which was honoured at the opening of the new railway line. He was deeply regretted that the Cardiff Railway Bill was rejected in the House of Commons. It was a most unfortunate thing in the history of the railway.

Lord Willington, Bombay, occupied a seat on the board of the London, Brighton and South Coast Railway, received a deputation from the Pandharpur Council, who presented a memorial requesting the Government to build a bridge across the river Bhima, near Pandharpur. The Barsi

Railway Company, which proposes carrying a railway across the river, and the deputation asked that the bridge should provide for both railway and road traffic, the Municipality being willing to bear the extra cost. His Excellency reserved his reply.

**Mr. C. S. Cunningham**, of Detroit, who had been in railway service for 25 years, has been appointed by Governor Harris to the State Railroad Commission to fill the vacancy made by the death of Mr. James Scully. For a number of years Mr. Cunningham was superintendent of the Welsh Road at St. Louis, Mo., going to the Grand Trunk in 1891, when the late Mr. C. M. Hays became president of the company. Until December, 1912, when he resigned, Mr. Cunningham served as superintendent of the Canadian division of the Grand Trunk, with headquarters in Detroit.

**Mr. H. A. Kellow**, indoor assistant to the chief goods manager of the North British Railway Company, who has attained his jubilee in the service, has been entertained at dinner by his colleagues and business friends in Glasgow. Mr. Kellow was presented with an illuminated address, which stated that his ability, frank and affable manner, unflinching courtesy, energy, and tact had gained him the confidence of his fellow-officers, while at the same time he had secured the respect and goodwill of the staff and of the trading community. Mr. D. Deuchars, M.V.O., presided and referred to the part which the guest had taken in the progress of the railway.

**Mr. E. J. Chamberlin**, president of the Grand Trunk Pacific Railway, in the course of his annual inspection of the lines, was received at Winnipeg by the Minister of Railways and Canals, the Hon. Frank Cochrane. The latter said he felt that the greatest need of Canada was increased transportation facilities, and he admitted the existence of an urgent and practically universal demand in the west for lower freight rates. In the last three years a great number of settlements had grown up in Saskatchewan and Alberta, which were not yet served with railway communication. Promises of service had been given but not fulfilled. The Canadian Northern and the Grand Trunk Pacific had not built any branch lines this year, and the C.P.R. had not done any more than it found absolutely necessary. In consequence, the need of roads had been brought before his department with great emphasis.

## RAILWAY NOTES.

**Great Eastern Railway and the Thames Ironworks Site.** The Great Eastern Railway Company has already secured a portion of the site of the Thames Ironworks, and it is stated that the company are now trying to acquire the whole of the ground.

**Clashing of Holidays in the North.** A railway representative writes: "The clash in the ship and Yorkshire will be held at Blackpool in December or January, with a view to getting the holiday makers. A proposition is being put forward to the directors of the Great Northern and Great Eastern to have the holiday makers of the North and the East of England to have a holiday in the North of England."

**Dividends on American Stocks.** The London Association of American Bankers and Stockholders, Limited, have received a dividend of 10 per cent. on the New York Central and Hudson River Railroad, and 10 per cent. on the New York and New Jersey Railroad.

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cable:—"First international train left Buenos Aires for Asuncion on October 12 from Lacroze Station, formed by Paraguay Central coaches sent from Asuncion for the purpose; also Argentine North Eastern and Entre Rios coaches. Official inauguration October 17."

**Requirements of Coventry and Nuneaton.**—Sir Frank Ree, general manager of the London and North Western Railway, has informed the joint committee of Coventry and Nuneaton Councils, formed for the purpose of securing improved railway facilities, that three additional trains would be put on. Owing to a local company having started a motor-bus service between Nuneaton and Bedworth, this railway company would for the present defer putting on its proposed road motor service. The committee decided to express the hope that at no distant date the company would erect a station at Radford, and also bear in mind the suggestion made by the deputation that at some future date the line between Coventry and Nuneaton may be duplicated so as to provide facilities for a service of electrically-driven trains.

**Goods Transit on the North Eastern Railway.**—Mr. A. Kaye Butterworth, general manager of the North Eastern Railway Company, on Monday received a deputation organised by the Railway Committee of the Newcastle and Gateshead Chamber of Commerce, consisting of representatives of traders in the North Eastern district. Complaints were made with regard to delays in the transit of goods, and one speaker stated that at one time two or three days was sufficient to obtain goods from Birmingham, but now 12 and 14 days were occupied. Various members of the deputation gave specific instances of delays, and a representative of Messrs. Bainbridge said the railway company had lost 60 per cent. of their outward traffic owing to the delays. Mr. Butterworth promised early attention to the points placed before him.

## CORRESPONDENCE.

### UNITED KINGDOM EMPLOYERS' DEFENCE UNION.

To the Editor of THE RAILWAY TIMES.

SIR,—Referring to the publication in your columns of the announcement of the institution of the United Kingdom Employers' Defence Union Guarantee Fund, as I have a great number of inquiries, I wish to say that the prospectus and guarantee papers will be issued to employers of labour as soon as completed. I am, yours, etc.,

MARK H. JUDGAL.

7, Pall Mall.

10th, September, 1913.

## OBITUARY.

Mr. A. W. Krauss, a contractor for public works abroad, died on Tuesday at Rio de Janeiro, as the result of a motor car accident after he had been to interview the Minister of Public Works. For several years past he was the managing director of the South American Railway Construction Company, which is carrying out for the Brazilian Government the construction of 1,000 miles of new railways in the North of Brazil.

Written by and Material from the Railway Times.

## PECKETTS' LOCOMOTIVES

PECKETT & SONS,  
ATLAS LOCOMOTIVE WORKS, BRISTOL.

## MIDLAND

RAILWAY CARRIAGE & WAGON CO., LTD.,

Builders of  
RAILWAY CARRIAGES,  
RAILWAY WAGONS,  
TRAMWAY CARS,  
and every description of Rolling Stock.

MIDLAND WORKS, BIRMINGHAM,  
and Abbey Works, Shrewsbury.







## OFFICIAL TRAFFIC RETURNS.

<b>Barry.</b>			<b>Great Northern (Ireland).</b>			<b>Metropolitan.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Total for week	£17,759	£15,001	Passengers, etc.	£11,100	10,450	Passengers, etc.	£1,100	1,000
Aggregate for 41 weeks	£712,458	£618,750	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Miles open	654	654	Total for week	£12,100	£11,450	Total for week	£2,100	£2,000
Inc. this week, £705	Inc. 41 weeks, £13,241		Aggregate for 41 weeks	£457,115	£387,385	Aggregate for 41 weeks	£41,000	£38,000
			Miles open	581	581	Miles open	41	41
			Inc. this week, £1,000	Inc. 41 weeks, £2,000		Inc. this week, £1,000	Inc. 41 weeks, £2,000	
<b>Caledonian.</b>			<b>Great North of Scotland.</b>			<b>Metropolitan District.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Passengers, etc.	£4,300	£3,700	Passengers, etc.	£4,300	£3,700	Passengers, etc.	£4,300	£3,700
Goods, etc.	600	600	Goods, etc.	600	600	Goods, etc.	600	600
Total for week	£4,900	£4,300	Total for week	£4,900	£4,300	Total for week	£4,900	£4,300
Aggregate for 41 weeks	£184,500	£159,000	Aggregate for 41 weeks	£184,500	£159,000	Aggregate for 41 weeks	£184,500	£159,000
Miles open	1,114	1,114	Miles open	1,114	1,114	Miles open	1,114	1,114
Inc. this week, £2,000	Inc. 41 weeks, £17,250		Inc. this week, £2,000	Inc. 41 weeks, £17,250		Inc. this week, £2,000	Inc. 41 weeks, £17,250	
<b>Cambrian.</b>			<b>Great Southern and Western.</b>			<b>Midland.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Passengers, etc.	£23,000	£22,000	Passengers, etc.	£23,000	£22,000	Passengers, etc.	£23,000	£22,000
Goods, etc.	3,061	3,100	Goods, etc.	3,061	3,100	Goods, etc.	3,061	3,100
Total for week	£26,061	£25,100	Total for week	£26,061	£25,100	Total for week	£26,061	£25,100
Aggregate for 41 weeks	£1,071,162	£920,929	Aggregate for 41 weeks	£1,071,162	£920,929	Aggregate for 41 weeks	£1,071,162	£920,929
Miles open	430	430	Miles open	430	430	Miles open	430	430
Inc. this week, £90	Inc. 41 weeks, £12,245		Inc. this week, £90	Inc. 41 weeks, £12,245		Inc. this week, £90	Inc. 41 weeks, £12,245	
<b>Central London.</b>			<b>Great Western.</b>			<b>Midland Great Western of Ireland.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Total for week	£15,519	£15,544	Passengers, etc.	£15,519	£15,544	Passengers, etc.	£15,519	£15,544
Aggregate for 41 weeks	£15,519	£15,544	Goods, etc.	15,519	15,544	Goods, etc.	15,519	15,544
Miles open	64	64	Total for week	£2,100	£2,100	Total for week	£2,100	£2,100
Inc. this week, £25	Inc. 41 weeks, £7,054		Aggregate for 41 weeks	£11,954,000	£11,092,000	Aggregate for 41 weeks	£11,954,000	£11,092,000
			Miles open	5,000	5,000	Miles open	5,000	5,000
			Inc. this week, £1,000	Inc. 41 weeks, £82,000		Inc. this week, £1,000	Inc. 41 weeks, £82,000	
<b>City and South London.</b>			<b>Highland.</b>			<b>North British.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Total for week	£15,407	£15,194	Passengers, etc.	£15,407	£15,194	Passengers, etc.	£15,407	£15,194
Aggregate for 41 weeks	£15,407	£15,194	Goods, etc.	15,407	15,194	Goods, etc.	15,407	15,194
Miles open	74	74	Total for week	£1,000	£1,000	Total for week	£1,000	£1,000
Inc. this week, £502	Inc. 41 weeks, £10,858		Aggregate for 41 weeks	£1,000	£1,000	Aggregate for 41 weeks	£1,000	£1,000
			Miles open	1,000	1,000	Miles open	1,000	1,000
			Inc. this week, £1,000	Inc. 41 weeks, £2,000		Inc. this week, £1,000	Inc. 41 weeks, £2,000	
<b>Dublin and South Eastern.</b>			<b>Hull and Barnsley.</b>			<b>North Eastern.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Passengers, etc.	£15,836	£15,847	Passengers, etc.	£15,836	£15,847	Passengers, etc.	£15,836	£15,847
Goods, etc.	1,918	1,793	Goods, etc.	1,918	1,793	Goods, etc.	1,918	1,793
Total for week	£17,754	£17,640	Total for week	£17,754	£17,640	Total for week	£17,754	£17,640
Aggregate for 41 weeks	£734,891	£620,420	Aggregate for 41 weeks	£734,891	£620,420	Aggregate for 41 weeks	£734,891	£620,420
Miles open	160	160	Miles open	160	160	Miles open	160	160
Inc. this week, £1,000	Inc. 41 weeks, £2,000		Inc. this week, £1,000	Inc. 41 weeks, £2,000		Inc. this week, £1,000	Inc. 41 weeks, £2,000	
<b>Furness.</b>			<b>Lancashire and Yorkshire.</b>			<b>North London.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Passengers, etc.	£2,900	£2,600	Passengers, etc.	£2,900	£2,600	Passengers, etc.	£2,900	£2,600
Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000	Goods, etc.	1,000	1,000
Total for week	£3,900	£3,600	Total for week	£3,900	£3,600	Total for week	£3,900	£3,600
Aggregate for 41 weeks	£158,500	£131,000	Aggregate for 41 weeks	£158,500	£131,000	Aggregate for 41 weeks	£158,500	£131,000
Miles open	159	159	Miles open	159	159	Miles open	159	159
Inc. this week, £152	Inc. 41 weeks, £2,000		Inc. this week, £152	Inc. 41 weeks, £2,000		Inc. this week, £152	Inc. 41 weeks, £2,000	
<b>Glasgow and South Western.</b>			<b>London and North Western.</b>			<b>North Staffordshire.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Passengers, etc.	£15,600	£14,600	Passengers, etc.	£15,600	£14,600	Passengers, etc.	£15,600	£14,600
Goods, etc.	20,700	20,700	Goods, etc.	20,700	20,700	Goods, etc.	20,700	20,700
Total for week	£36,300	£35,300	Total for week	£36,300	£35,300	Total for week	£36,300	£35,300
Aggregate for 41 weeks	£1,574,300	£1,482,500	Aggregate for 41 weeks	£1,574,300	£1,482,500	Aggregate for 41 weeks	£1,574,300	£1,482,500
Miles open	474	474	Miles open	474	474	Miles open	474	474
Inc. this week, £1,000	Inc. 41 weeks, £11,000		Inc. this week, £1,000	Inc. 41 weeks, £11,000		Inc. this week, £1,000	Inc. 41 weeks, £11,000	
<b>Great Central.</b>			<b>London, Brighton and South Coast.</b>			<b>Rhymney.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Passengers, etc.	£25,900	£25,500	Passengers, etc.	£25,900	£25,500	Passengers, etc.	£25,900	£25,500
Goods, etc.	72,300	72,300	Goods, etc.	72,300	72,300	Goods, etc.	72,300	72,300
Total for week	£98,200	£97,800	Total for week	£98,200	£97,800	Total for week	£98,200	£97,800
Aggregate for 41 weeks	£4,723,900	£4,136,000	Aggregate for 41 weeks	£4,723,900	£4,136,000	Aggregate for 41 weeks	£4,723,900	£4,136,000
Miles open	2,000	2,000	Miles open	2,000	2,000	Miles open	2,000	2,000
Inc. this week, £2,000	Inc. 41 weeks, £58,700		Inc. this week, £2,000	Inc. 41 weeks, £58,700		Inc. this week, £2,000	Inc. 41 weeks, £58,700	
<b>Great Eastern.</b>			<b>London and North Western.</b>			<b>South Eastern and Chatham.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Passengers, etc.	£6,300	£6,900	Passengers, etc.	£6,300	£6,900	Passengers, etc.	£6,300	£6,900
Goods, etc.	115,000	115,000	Goods, etc.	115,000	115,000	Goods, etc.	115,000	115,000
Total for week	£121,300	£121,900	Total for week	£121,300	£121,900	Total for week	£121,300	£121,900
Aggregate for 41 weeks	£4,630,000	£4,568,100	Aggregate for 41 weeks	£4,630,000	£4,568,100	Aggregate for 41 weeks	£4,630,000	£4,568,100
Miles open	41	41	Miles open	41	41	Miles open	41	41
Inc. this week, £1,000	Inc. 41 weeks, £2,000		Inc. this week, £1,000	Inc. 41 weeks, £2,000		Inc. this week, £1,000	Inc. 41 weeks, £2,000	
<b>Great Northern.</b>			<b>London and South Western.</b>			<b>Taff Vale.</b>		
Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.	Week ending Oct. 12	1913.	1912.
Passengers, etc.	£51,600	£50,600	Passengers, etc.	£51,600	£50,600	Passengers, etc.	£51,600	£50,600
Goods, etc.	79,700	79,700	Goods, etc.	79,700	79,700	Goods, etc.	79,700	79,700
Total for week	£131,300	£130,300	Total for week	£131,300	£130,300	Total for week	£131,300	£130,300
Aggregate for 41 weeks	£5,233,800	£4,901,100	Aggregate for 41 weeks	£5,233,800	£4,901,100	Aggregate for 41 weeks	£5,233,800	£4,901,100
Miles open	1,000	1,000	Miles open	1,000	1,000	Miles open	1,000	1,000
Inc. this week, £1,000	Inc. 41 weeks, £2,000		Inc. this week, £1,000	Inc. 41 weeks, £2,000		Inc. this week, £1,000	Inc. 41 weeks, £2,000	

NOTE AND EXPLANATION.—The figures in the above returns are the actual traffic returns for the week ending October 12, 1913, and for the corresponding week in 1912. The figures for the aggregate for 41 weeks are the aggregate for the 41 weeks ending October 12, 1913, and for the corresponding aggregate for 41 weeks in 1912. The figures for the miles open are the miles open for the week ending October 12, 1913, and for the corresponding miles open for the week ending October 12, 1912. The figures for the increase for the week and for the 41 weeks are the increase for the week and for the 41 weeks in 1913 over the corresponding week and 41 weeks in 1912.









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## TENDERS INVITED.

## Caledonian Railway Company.

THE Directors of the Caledonian Railway Company are prepared to receive tenders for the following materials and fittings:

1. Barrows.
2. Bricks, 1000's.
3. Cement, 1000's.
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Specification and Forms of Tender, and any other particulars may be obtained on application to the 20th October from Mr. A. J. Eadie, Station Superintendent, Caledonian Railway, 321, Charles Street, St. Rollox, Glasgow.

Tenders, endorsed "Tenders for Stores," to be lodged with the Secretary, 302, Buchanan Street, Glasgow, not later than Friday, 31st October, 1913.

The Directors do not bind themselves to accept any tender.

Company's Offices, 302, Buchanan Street, Glasgow.

17th October, 1913.

Bombay, Baroda, and Central India Railway Company.

THE Directors are prepared to receive tenders for the following materials and fittings:

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## Notice.

## CONSTRUCTION AND EXPLOITATION OF A RAILWAY.

THE "Junta Geral" of the District of Ponta Delgada, Saint Michael's Azores, is presented by its Administrative Committee, makes known that, on the 28th of that month, it will open a competition, for a period of ninety days, to run from the first publication of the aforesaid "Diário," for the Construction and Exploitation of a Railway to be constructed, as far as possible, on the sideways, roadways, and beds of the national and municipal highways, between Ponta Delgada and the town of Ribeira Grande. The bases of the contract and the respective programme and conditions will be on view at the Portuguese Consulate in London, and at Messrs. Wm. Hooton and Yates, 12, Fenchurch Street, E.C. where all explanations will be given, only the Portuguese version published in the "Diário do Governo," being valid for all effects.

Secretariate of the Junta Geral of the District of Ponta Delgada, Saint Michael's, Azores—30th September, 1913. The Administrative Committee.—Monsieur José da Costa, President; F. Pimentel, Vice-President—João Candido Borges—António Joaquim Fernandes—Members.

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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, OCTOBER 25, 1913.

No. 17.

## PRINCIPAL CONTENTS.

## THE STATE AND THE RAILWAYS.

THE relationship between the Railway Companies and the State in respect of matters other than safety of working and the conditions of employment, will come as no great surprise to those who followed the course of affairs in connection with the Railway Rates Bill in the earlier part of the year. At that time the President of the Board of Trade gave an undertaking to institute a sweeping enquiry of this character. The appointment of a Royal Commission, in view of the usual dilatory tactics of such a body, does not seem the most speedy way of arriving at the conclusions desired. Some anxiety has naturally been expressed in the railway world as to the constitution of the body which was to make this enquiry, but in this respect there is only one criticism we have to offer. No leading representative of the British railway industry is appointed on the Commission, and all things considered, we think this is a serious omission. On the other hand, no member of the Committee is either an irresponsible politician or an advocate of confiscation. Indeed, the constitution of the Committee is such as to deserve the confidence of investors in British railways. The Chairman is Lord Loreburn, formerly Lord Chancellor, and, though a declared Radical, he has recently shown his ability to detach himself from Party politics by being the first to suggest a compromise on the Home Rule question. Lord Derby, another member of the Commission, is a well-known Unionist, and President of the British Cotton Growing Association, while Mr. Huth Jackson is not only a well-known financier, but a director of the Bank of England. Sir William Plender is well known as a leading accountant and auditor to many railways at home. He was selected by Mr. Lloyd George to investigate the accounts of the London Dock companies preparatory to their purchase by the public authority, and it is at least reassuring to know that in that case the terms of purchase were eminently reasonable and fair to the shareholders. No member of the Commission has previously been connected with the railway work in India in various capacities. Other members of the Commission are Mr. H. H. Asquith, Secretary of the Treasury official, and Mr. Shackleton, Senior Labour Adviser to the Home Office, and former Labour member of Parliament. It has been generally assumed that the main object of the enquiry will be an investigation into the question of State purchase. Whether this conclusion is reliable or not will, we take it, depend a good deal upon the line of action decided upon by the Commission. It is not in the least likely to be injurious to the interests of the railway companies if the enquiry is of a purely advisory character. The problems which have been submitted to the Government and to the public, the easier it will be for the railway companies to obtain fair treatment. There are so many advocates today of State purchase that the subject may force itself on the attention of the new Royal Commission. Our view is, of course,

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that to transfer the railways to the State would be a serious thing for the public, and would be fraught with many dangers. The recent experience in connection with a similar transfer of the telephone service should serve as a useful warning of what may be expected. From the shareholders' standpoint, and even from the point of view of railway officials, we think that the change would probably be for the better. The terms of purchase of railways laid down in the Act of 1844 are very definite. Briefly, they provide that the Government can purchase on the basis of 25 years' purchase of the average net profits of the three preceding years, plus an allowance to be fixed by arbitration in respect of prospects wherever the dividends are below 10 per cent. As an example, it may be stated that on the basis of the last three years' accounts the London and North Western Ordinary Stock would be worth 175 without any addition for prospects as against the current price of 128. Railway shareholders under the present system of State regulation suffer all the inconveniences of State control, whilst the State itself does not in any respect share the risk. If, in the course of time, the new Commission does report in favour of State purchase on the terms laid down, there is no question that it would be a great boon to the railway shareholders and would remove most of the depreciation now existing; but, as we have stated before, the evidence is conclusive that the public interests would not be served so well under Government control as they are at the present time.

#### CULPABILITY FOR AISGILL DISASTER.

Probably a good many people in the railway service of the country, as well as many of the general public, will regard the result of the trial of Driver Samuel Caudle with very mixed feelings. He has been convicted of manslaughter, and sentenced to two months' imprisonment. Undoubtedly it is the first duty of an engine-driver to observe the signals, and admittedly Caudle failed to observe those at Mallerstang on September 2, with the result that his train collided with a train which had preceded, but had stopped owing to lack of steam, and a number of passengers were killed. But there were circumstances of a somewhat extenuating nature, and no doubt it is on account of these that the sentence passed was not heavier. If evidence is wanted that the circumstances were extenuating, there is the fact that two coroners' juries acquitted Caudle of criminal negligence, and it was only on the verdict of a third jury that he was returned for trial. There is also the fact that he has a long and fine record as a driver. At the trial at Carlisle on Monday and Tuesday, the question of the quality of the coal supplied for the engine of the first train was again brought forward, as was also the point whether the first train should have had the assistance of a pilot locomotive to get it over the Aisgill summit. Mr. Justice Avovery properly put these matters aside as irrelevant to the issue whether Caudle was culpable or not. No doubt we shall have a judgment

issued. The Judge put it to the jury that culpable negligence is the neglect to perform any duty which neglect the person charged knew was likely to cause death or grievous bodily harm. Caudle admitted he failed to observe the home and the starting signals which were at danger. It was on this simple issue that the conviction came, and the defence was unable to establish the proposition that the negligence did not amount to criminal negligence. Caudle, in his evidence, made a more definite statement as to the distant signal than he appears

of his failing to keep a proper look-out for the home and starting signals. When he got back to the cab after oiling, he found the water in the boiler getting low, and concentrated himself on the injector in an effort to put matters right. It was while thus employed that he ran past the other signals. It is not the duty of the stoker to look out for signals, though he frequently does so. On this occasion the stoker did not see the signals; according to his story he had to attend constantly to the fire because the coal supplied was so small. However that may be, the fact remains that it is not the duty of the fireman to watch for signals. The short of the matter is that Caudle was so much occupied in getting the water supply to the boiler right that the necessity for watching for the signals for the time being escaped him. It is important to keep time, and it is important that the water supply should be right, but these things are of minor importance compared with observing the signals, a duty on which the lives of so many people depend. No railway company, whatever its rules, wants a man to neglect this primary duty for the purpose of attending more efficiently to others. In all the circumstances, however, there is room for considerable sympathy with Caudle. There has been some talk of an appeal against the result of the trial, so that the verdict and sentence may be reviewed.

#### THE DISCOURAGEMENT OF HOME INVESTMENTS.

A curious feature of the political world in the last few years has been the discouragement by practically all parties of the investment of capital in the United Kingdom. On the whole the main share of the blame must undoubtedly be laid upon the Government, because an unfortunate result of its policy has been to awaken direct antagonism in various quarters to the capitalist class and its interests in any form. Whatever conditions may prevail in the Utopia which exists in the imagination of many of our amateur politicians, it is at any rate an indispensable requirement of the prevailing conditions that capital should be attracted into various home enterprises, and already this is being realised in quite unexpected quarters. The existing state of things in the railway world provides a striking illustration of the results of the policy of discouraging investment. Whilst the country is, on the whole, well provided with transport facilities, it will not be denied that in many directions further development is not only possible, but necessary, in the public interest. There are many districts where the natural expansion is cramped by absence of proper transport facilities, and in connection with suburban railway systems in London and other large centres of population the urgent requirement is for electrified systems. The railway companies, however, have very properly recognised that investors are not anxious under present conditions to increase their stake in the railways of this country. Indeed, it would be impossible to issue, on businesslike terms, any large amount of capital for any of these necessary purposes. Following the illustration to the next stage, what does this imply? A large amount of money which would be expended mainly on labour is not spent, and large permanent means of employment for additional railwaymen, etc., are not provided. We have said that the main share of the blame for this dangerous discouragement of the investor must necessarily be laid upon the Government. It cannot be denied, however, that even the Opposition are to some extent responsible. It is not surprising that the patriotism of some people to recommend that capital which has been earned in this country shall be exported and invested abroad, and too often precautions are not even taken that, in the case of foreign government and other loans and foreign railway issues, the proceeds of such capital shall be as far as possible expended in this country. One very important, and indeed disastrous, result of following the advice of all manner of party politicians has been that the



anyone. British investors in foreign securities have been damaged by the frying pan into the fire. Many thousands of investors have either refrained from investing capital in this country, and gone into many speculative and unsatisfactory foreign investments, or have even sold out solid Home securities and re-invested in speculative foreign stocks, which have recently proved to be very unsatisfactory. There is no question whatever that the private investor who has throughout retained high-class British stocks is coming out the best. After a period of exceptionally good fortune for many foreign investments, trouble seems to have sprung up in every quarter of the globe. In Brazil the fall in rubber and in coffee, and some breach of faith on the part of local authorities, has destroyed confidence in that country, and even threatens to endanger the exchange. In Mexico a series of revolutions has already brought the country to the verge of bankruptcy, and heavy depreciation in the exchange has actually occurred, and seriously disturbs the position of leading British enterprises which have to remit heavy interest charges in gold. There has been quite a crop of scandals in connection with various Central American and other investments of this type. An admirable opportunity is presented to the Government of giving a distinct impetus to the investment of capital at home. Indeed, without such direct encouragement the influences at work are making in that direction. For a considerable time past, in the midst of depression and disastrous depreciation, leading Home investments, including Consols, and the whole list of Home Railway securities, have remained comparatively steady. This is, of course, partly to be attributed to the fact that they had previously undergone disastrous depreciation, and also to the fact that more sceptical holders had already disposed of their holdings. The financial strain put upon the stock markets by the collapse of various groups of foreign securities, to say nothing of the stress directly associated with the Balkan wars, may for a time continue to drag down British securities of the highest class, but indications are clearer than ever that sound Home securities will in the long run benefit from the foreign troubles, and that in due time they will assume once more a foremost place in the estimation of the British investor. Why this should at any time have been otherwise we leave as a problem to be solved by party politicians, whose main interest nowadays seems to be to disturb and endanger the true interests of the country.

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways for the week ended October 19 gives a total of £2,333,798, which was earned on 21,934 miles, being at the rate of £106 8s. per mile of line open. For the corresponding week of 1912, the receipts of the same lines amounted to £2,307,253, with 21,858 miles open, or £105 11s. 1d. per mile. Thus there was an increase of £26,545 in the receipts, an increase of 76 in the mileage, and an increase of 16s. 11d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £33,443 (or £1 8s. 1d. per mile) in the passenger receipts and a decrease of £3,621 (or 7s. 0d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the forty-two weeks in the passenger receipts has been £2,803,000, while the aggregate increase in the goods traffic was £3,950,770. The aggregate receipts of the fifty railways for forty-two weeks (December 29 to October 19) amounted to £68,533,344, in comparison with £61,578,541 last year, an increase of £6,954,803, not including receipts from certain canals, etc.

## MONEY AND STOCK MARKETS.

SETTLEMENT DAYS			
Continuation Days.		Ticket Days.	
Mines .....	Oct. 27	Mines .....	Oct. 27
General .....	" 28	General .....	" 29
Mines .....	Nov. 10	Mines .....	Nov. 10
General .....	" 11	General .....	" 11
Mines .....	" 24	Mines .....	" 24
General .....	" 25	General .....	" 25

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Same Week Last Year.
Bank's Coin and Bullion	£1,000,000,000	£1,000,000,000	£1,000,000,000
Total Reserve .....	£2,000,000,000	£2,000,000,000	£2,000,000,000
Proportion of Reserve to Liabilities .....	50 p.c.	50 p.c.	50 p.c.
Notes in Circulation .....	£180,000,000	£180,000,000	£180,000,000
Bank Rate .....	5 p.c.	5 p.c.	5 p.c.
Open Market Discount .....	4 p.c.	4 p.c.	4 p.c.
Bankers' Clearing House Silver bars, per oz. (spot)	27 1/2	27 1/2	27 1/2
Consols (account) .....	7 1/2	7 1/2	7 1/2
French 3 per cent. (acc.)	87 1/2	87 1/2	87 1/2
Paris Cheque exchange .....	25 1/2	25 1/2	25 1/2
New York 60 days ditto	\$4.81	\$4.81	\$4.81
Rio de Janeiro exchange	16 1/2	16 1/2	16 1/2
Valparaiso 90-day exch'e	61 1/2	61 1/2	61 1/2
Calcutta transfers .....	18 1/2	18 1/2	18 1/2
Hong Kong transfers .....	18 1/2	18 1/2	18 1/2
Shanghai transfers .....	28 1/2	28 1/2	28 1/2

The position of the Bank of England is shown to have appreciably improved by the last published return. Only £275,000 went abroad, chiefly to Egypt, against £835,000 which came in, partly as bar gold from the mines and partly in coin from South America. The provinces furnished about £270,000 in coin and £171,000 in notes, so that altogether the Reserve benefited to the extent of £1,010,000, bringing it to a level within £900,000 of that which obtained at the corresponding date of last year. Government Securities were £1,000,000 lower, that sum having been repaid to the Bank for advances for Ways and Means or Deficiency Bills. Public Deposits rose £610,000 nevertheless, and Other Deposits declined by £440,000 to £1,100,000, which is practically the same as maintained. As it was, the market borrowed £150,000, as is seen from the rise in Other Securities by that amount. The effect of all changes was to raise the ratio of Reserve to the liabilities of the Bank by nearly two points to 50 1/2 per cent.—a very high figure. Discounts have kept up, and there seems little likelihood that any relaxation of the rates now charged will occur during the winter months. Indeed, the hope of money becoming cheaper is little entertained and the notion that rates commanded by loanable capital have been permanently raised is the governing influence in determining the changes of price quotations recorded on the Stock Exchange. In these conditions the general trend must needs be towards lower rates, and this week, although during the early part a recovery appeared to be imminent, circumstances soon proved too much for the movement, and quotations began to fall again at a faster rate than they had risen. Home Rails

described as passive participation. Time was when the Home Rail market was looked to from all sides for a lead in such matters. Now the department cannot even be said to take an active share in the changes. Its price quotations move sluggishly only in sympathy with market tendencies having their origin elsewhere. The prices quoted for Home Rails are as low as have been seen for a generation in many instances, and the yields indicated by the present rate of earnings exceed the experience of half-a-century. The rising scarcity of loanable capital, of course accounts to some extent for this condition of affairs, but not to the full extent. The contention of the Socialists that railway servants must be regarded as part owners of the property on which they are employed having, indeed, what the real owners have not, the right to decide when it shall be worked and when it shall cease to be worked, has so far had the effect of reducing the value of the railways without adding to the wealth of the employees.

Last Saturday, the forced selling which characterised the previous week was not continued. Consols remained weak, but dealers in other markets took heart of grace and began to mark up prices tentatively. The changes were trifling, and in Home Rails the heavy lines were favoured at the expense of the passenger lines, but when on Monday no further indication of forced selling became manifest, somewhat larger advances in price were ventured. Fractions of  $\frac{1}{2}$  or  $\frac{1}{4}$  were added to the price of Home Rails all down the active list. The movement was helped by a recovery in Americans and Canadas, Trunks, and Mexicans, together with some of the Argentines and Brazilian lines joined in later. The next day, like conditions prevailed. United States Railways benefited by the news that the Western lines had permission to raise their rates. The 3 per cent. dividend declared by the Buenos Ayres Pacific against 2 per cent. last year helped Argentines, though Mexicans suffered from news that import dues were to be increased to half as much again. On Wednesday, it was found that the permission accorded to the Western lines in the United States was less than had been anticipated. The published returns of the London and North Western and Midland Railways reflected the stagnation of traffic arising out of the strike at Dublin, and it was recorded that France had dispatched a warship to Mexico to guard her interests. These items of intelligence, supplemented by reports of new issues in preparation determined a bout of profit-taking which developed the following day into a selling movement that strongly depressed quotations. Peruvian securities were affected particularly by the news that a loan was in contemplation. Brazilians and Mexicans fell sharply while United States Railways with Canadas and also Trunks declined steadily. Home Rails were depressed.

On Friday the news that a Royal Commission had been appointed to inquire into the relation of the State to the railways in Great Britain had a depressing effect. The market, as usual, took a superficial view of the matter, and argued that in light of the attitude adopted by the present Government to the railway companies, such an inquiry could only mean the search for some device by which the property of the shareholders in the railway lines could be transferred upon. We deal with the subject elsewhere in this issue, and we shall be surprised if a reconsideration of the position does not cause the market to admit its mistake. In the meantime it may be noted that London and North Western Ordinary stock at 127 $\frac{1}{2}$  has again reached its lowest quotation. Consols were 110 lower at 72 $\frac{1}{2}$ , and Irish Land stock fell to 72 $\frac{1}{2}$ . United States Railways were quietest. Trunk fell in spite of the publication of a good traffic receipt. Canadas and Mexicans did rather better. South Americans were not so firm, and Chinese securities were affected by rumour that another Waratah loan was wanted at Peking by way of loan.

### The movements of the week are set forth below:—

Name of Stock.	Rise.	Fall.	Name of Stock.	Rise.	Fall.
<i>British Funds.</i>					
Consols 2½ per cent.	1	—	American Railways.		
Do. 2½ per cent.	1	—	Atchafson Common	2½	—
<i>British Railways.</i>					
Barry Deferred	—	—	Baltimore and Ohio	1	—
Cardigan	—	—	Chesapeake and Ohio	1	—
Do. Pref. Con. Ord.	—	—	Chicago Gt. Western	—	—
Do. Def. Con. Ord.	—	—	Chicago Mil. & S. Paul	2	—
Central London	—	—	Denver & Rio Grande	—	—
Do. Deferred	—	—	Do. Preferred	—	—
City and S. London	—	—	Erie Common	1	—
East London Con.	—	—	Do. 1st Preference	2	—
Edinburgh	—	—	Do. 2nd Preference	1	—
Great Central Pref.	—	—	Illinois Central	—	—
Great Eastern	—	—	Louisville & Nashville	—	—
Great N. W. Con. Ord.	—	—	Mission Kansas & Texas	—	—
Do. Def. Con. Ord.	—	—	New York Central	2	—
Great Western	—	—	N.Y., Ont. & Western	—	—
Hull and Barnsley	—	—	Norfolk & Western	—	—
Lancashire & Yorkshire	—	—	Do. Preferred	—	—
London, Br. & S. Coast	—	—	Pennsylvania	—	—
Do. Deferred	—	—	Reading Common	2	—
London, Cant. & Dover	—	—	Southern Pacific Com.	2½	—
London & N. Western	—	—	Southern Common	—	—
London & S. Western	—	—	Do. Preferred	1	—
Do. Def. Con.	—	—	Union Pacific	—	—
Metropolitan	—	—	Do. Preferred	—	—
Metropolitan District	—	—	U.S. Steel Corp. Com.	3½	—
Midland Def. Ord.	—	—	Do. 7½ per Cent. Pref.	—	—
North British Pref. Ord.	—	—	<i>Foreign Railways.</i>		
Do. Def. Ord.	—	—	Antofagasta Def. Ord.	—	—
North Eastern Cons.	—	—	Buenos Ayres Pacific	—	—
North Stanthorpe	—	—	Buenos Ayres Gt. Stn. 1st	—	—
South Eastern	—	—	Buenos Ayres Western	—	—
Do. Deferred	—	—	Central Argentine	—	—
East Ang.	—	—	Do. Deferred	—	—
Underground Electric	—	—	Cent. Uruguay of Mont.	—	—
Do. 4½ p.c. Bonds	—	—	Cordoba Cent. Ord.	—	—
Do. 6 p.c. Bonds	—	—	Do. 1st Pref.	—	—
<i>Foreign Railways.</i>					
Canadian Pacific	—	—	Costa Rica	—	—
Grand Trunk of Canada	—	—	Cuban Central	—	—
Do. 4 p.c. Guaranteed	—	—	Leopoldina	—	—
Do. 1st Preference	—	—	Mexican Ordinary	—	—
Do. 2nd Preference	—	—	Do. 1st Pref.	—	—
Do. 3rd Preference	—	—	Do. 2nd Pref.	—	—
			Nitrate Ordinary	—	—
			Ottoman (Smyrna to Aidin)	—	—
			Un. of Havana Ord.	—	—

### BANK RETURN.

The return of the Bank of England for the week ended Wednesday, Oct. 22, compared with that for the previous week, shows the following changes:—

Oct. 23, 1913.	BANKING DEPARTMENT.	Oct. 15, 1913.	Oct. 22, 1913.	Increase.	Decrease.
£	Liabilities	£	£	£	£
3,184,769	Res.	3,164,378	3,174,581	10,203	—
11,962,000	Public Deposits	5,310,825	7,911,189	610,613	—
44,124,250	Other	41,762,000	44,321,866	—	440,010
36,422	7 Day Bills	—	17,000	—	15,375
14,037,389	Govt. Securities	14,488,164	13,468,105	1,000,000	—
29,725,386	Other	24,777,127	24,929,009	—	157,806
28,937,015	Notes and Coins	24,998,035	24,910,595	—	912,860
1,293,597	Gold and Silver	1,593,888	1,690,543	—	96,645
				1,620,816	1,620,846
				Increase.	Decrease.
37,601,122	Reserve	25,591,933	36,674,438	1,093,505	—
44,400 p.c.	Ratio	54.30 p.c.	56.25 p.c.	1.95	—
4 p.c.	Bank Rate	4 p.c.	4 p.c.	—	—
4 p.c.	Market Rate	4 p.c.	4 p.c.	—	—
	(ISSUE DEPARTMENT.)			Increase.	Decrease.
44,902,865	Gold and Bullion	24,333,839	31,135,785	712,155	—
54,442,960	Notes and Coins	52,845,630	53,585,785	740,155	—
28,937,015	Circulation	23,845,593	28,674,890	—	170,765

**Railway Lantern Slides.** The Lancashire and Yorkshire Railway Company have just issued their syllabus of lantern lectures for use during the coming season. The series comprise ten lectures, which deal with the popular holiday and pleasure resorts in Lancashire and Yorkshire, Wales, Ireland, Isle of Man, Belgium, etc. Full particulars of the conditions of loan may be obtained from Mr. A. Watson, superintendent of the line, Manchester.

# MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

- Cartagena (Colombia) Railway. Directors' Meeting, Monday, November 11, at 10.30.
- Sao Paulo Brazilian Railway. Directors' Meeting, Monday, November 11, at 10.30.
- Tatlar Railway (Azerbaijan). Directors' Meeting, Monday, November 11, at 10.30.
- Cuban Central Railways. Directors' Meeting, Monday, November 11, at 10.30.
- Mexican Railway. Directors' Meeting, Monday, November 11, at 10.30.
- London, Chatham and Dover Railway (Extraordinary). Victoria Station, Pimlico, S.W. at 10.30.

*Intelligence should be sent as early as possible to the Editor of THE RAILWAY TIMES, 12, Norfolk Street, London, W.C. (Telephone 2948 Gerrard. Telegraphic address, Altimetry, London.)*

## BUENOS AYRES WESTERN RAILWAY.

The 24th ordinary general meeting of the proprietors was held on Tuesday, October 21, at River Plate House, Finsbury Circus, E.C., Sir Henry Bell, Bart. (chairman of the company) presiding.

The SECRETARY (Mr. F. Eustace Faithfull) read the notice convening the meeting and the auditors' report.

The CHAIRMAN, in moving the adoption of the report and accounts, said although the report which they had to consider was not as good as he could have wished, he thought it would be admitted that an increase of £480,000 in their gross receipts and £160,000 in their net profit was not unsatisfactory. The Board proposed to pay an increased dividend of £2.00 on the 1912 extension shares, which this year ranked for the full dividend as ordinary stock, and they had to pay an additional £138,000 on the 1915 extension shares, but they had earned it, and when he pointed out that they had contributed £160,000 more than last year to their renewal and demolition funds, he did not think they could be dissatisfied with their carry forward of £125,000 against £147,000 last year.

Referring to the gross increase of £319,990 in the working expenses, he called attention to the general manager's remarks on this subject:—

"The comparison of these figures gives an increase of £310,998, but by deducting the additional contributions to the renewal funds and the demolition fund, as well as the smaller credit in respect of freight for the transport of the company's material and hire of rolling stock, which are not direct operating items, the amount would be reduced to £135,060, and thus the working rate would come out at 50.74 per cent. instead of 52.14 as last year."

(The Chairman then read the Chairman's Report.)

He proceeded to deal with paragraph No. 9 in the report, in which, he supposed, most interest was centred, relating to the withdrawal of their petition for fusion with the Great Southern Railway, and as this withdrawal was such a complete change from the public

that the shareholders were entitled to know the reasons that led up to it, and when they knew them, he felt confident that they would agree that the board had acted in the best interests of the shareholders.

They presented a petition, and the National Senate, by their public works committee, and the Government, by their permanent officials, examined their proposals and decided that on the whole they were equitable and favourable by the State, and unanimously recommended their acceptance, and in December the Senate passed the Bill. The public works committee of the Chamber of Deputies, after considering the Bill, with certain modifications, the Chamber found no time between February and September even to discuss it, and in the interval much occurred.

In the first place, the National Congress was discussing a law to which in principle they did not object, but which was, in their opinion, such a distinct infringement of the Mitre Law that the Government had to refer it to the Railway Employees' Pension Law. This law provided that the employees of the railway companies should be entitled to pensions for their old age, and the funds to meet these pensions were to be provided from three sources. The railway companies were to contribute annually a minimum sum equal to 3 per cent. of their

gross receipts, and the Government was to collect from the public a special increase of 3 per cent. on their railway receipts, and the employees' pension fund was to be added to the fund.

Now the Mitre Law, which was passed in 1907, was definitely stated to be a settlement of all claims by the Government to tax them, and was accepted by them as such, and in this belief they elected to come under this law. They contended, and they

them by law to subscribe a sum equal to 3 per cent. on their employees' wages was a tax pure and simple, and that it was a tax from which they were exempt, whether they were in accord with the object for which it was levied or not.

That was the position they took up, and it seemed to them logical. No one could accuse them of wishing to avoid a duty to their employees.

The amalgamated companies should, within six years, construct 1,500 kilometres of railway joining up the two systems, thus improving the communications with the shipping ports and

agreed upon by the Government and the two companies, and a project was in course of preparation for submission to the Government defining these lines, but about the beginning of August the Government of the Province of Buenos Ayres proposed and had since carried through their Legislature a Bill to construct and work some 5,000 kilometres, or say 3,000 miles,

on this Bill it was openly stated that the Government had only intended to ask for funds to complete the line from La Plata to Meridiano Quinto, but that this new programme was rendered necessary to prevent a big railway trust and to provide a means of controlling rates owing to the proposed amalgamation of the Southern and Western Companies.

With this Bill a plan was issued showing the lines it was proposed to construct and at the same time a strongly worded request from the Minister of Public Works of the Province was addressed to the Senators and Deputies representing the Province in the National Congress urging them to claim the protection of the National Government for the zones which came to discuss the Amalgamation Bill.

The company were face to face with a programme of extensions by the Government of the Province in which the greater part of their lines were operating, and this Government declared itself as willing to spend 25 or 30 millions sterling for the express purpose of controlling tariffs. Not only that, but their scheme of extensions was designed in such a way that it would have been almost impossible for the company to build the 1,500 kilometres of new lines which they were undertaking to construct with any reasonable chance of making them even

If the National Congress had passed the company's Bill, they would no doubt have helped them to locate these new lines in a way which would have given them the connections they required, and would have given them the best chance of making them reasonably profitable to them, but this would only have resulted in a conflict between the National and Provincial Governments, with both of whom they had been and wished to be on the most friendly terms.

They had no intention nor desire to form any railway trust, as was publicly charged against them in the Provincial Senate, they did not ask for a monopoly and they did not fear legitimate competition, but they could not undertake to develop a province the Government of which declared itself hostile to such development, and they had no alternative but to withdraw their petition.

The withdrawal of their petition for amalgamation left the two companies exactly as they were before it was presented.

Complete harmony with their good friends the Great Southern

The report referred to their underground goods tunnel and to

them as fast as they could have wished.

One of the main objects of the Bill was to save the company the trouble of excavating the tunnel, and much time would be saved if they could excavate the tunnel in the first place.





it is erroneously stated that both engines and cars were purchased on revenue account, and will be paid for by amounts debited to revenue each half-year, but it is incorrect as regards the engines, which will likewise be paid for each half-year, but by cash provided by capital. This does not, however, alter the accounts in any way—they are perfectly correct for the cars in the half-years ended December 31, 1912, and June 30, 1913.

Receipts for the half-year ended December 31, 1912, were £531,000, or 13.86 per cent.; the working expenses £279,000, or 7.12 per cent. The expenditure on capital account amounts to £1,517,000, of which £28,000 is for expenditure on the Lachine Jacques Cartier and Maisonneuve Railway, a line which, when completed, will give us a belt line round Montreal, and enable us to handle the traffic in that city with much-needed increased facility. £60,000 is for the acquisition of \$322,000 of Grand Trunk Western bonds; £529,000 for property acquired and works carried out by the Grand Trunk Pacific Development Company for hotels at Winnipeg and Edmonton, land at Victoria and Fort William, and a dry dock and ship-repairing plant at Prince Rupert, upon which latter the Dominion Government guarantee for twenty-one years  $3\frac{1}{2}$  per cent.

The Grand Trunk proper, such as the construction of new side tracks, and improvements and additions to terminals, in order to facilitate the handling of the traffic and relieve the congestion of the different points of the system.

The Grand Trunk Western Railway figures do not affect the accounts of the Grand Trunk proper now presented. There is an increase of £6,000 in the debit balance carried forward, and that amount will be taken care of in the current half-year. Taking the increase of the gross receipts on the whole system of 13.38 per cent.—the increase in wages alone was £388,000, or 17.50 per cent.

Now, ladies and gentlemen, from one point of view it is unsatisfactory that, with this large increase in our gross receipts, we have been unable to secure a larger amount of net profit, but the cause of this is plain—the large and continued increase in the rates of wages, and the continued increase in the cost of fuel and materials, which, in turn, is also caused by the general increase in wages. From another point of view, it is satisfactory that, owing to the increase in our gross receipts, we have been able to maintain our position, and to meet the increased charges on capital account. It is a perpetual fight to maintain the position already won, and as Railway Commissions, municipalities, traders, our employees, and the general public are for ever placing some burden on the railways, or asking for some concessions, the fight is a very hard one, and knowing, as I do, the difficulties the executive have to contend with, I think our staff, from Mr. Chamberlin downwards, deserve credit for what they have accomplished. (Applause.)

The working of the railway and in his staff for which time is required to show the results. I know that he and his staff have had a most strenuous year, and I feel confident they will strain every nerve to overcome the difficulties of railway management in the present day, and give us the best results in their power. All over the world the railways are asked for more service, and more accommodation for the same or less money. That the cities with their manufactories, and the

thing like the present scale but for the railways—never seems to enter anyone's head.

To hear public men and the general public talk all over the unscrupulous capitalists, rolling in wealth, whereas they are composed of investors who have invested their hard-earned savings in these undertakings—the return for which, through-

in the history of the world have any undertakings of such magnitude been organised which have conferred such enormous benefits on mankind, and where has the reward been so poor? I fully realise railways must be under control and must conform to the law, and that the many and intricate questions relating to them must be argued before special Courts or Commissions, but I most respectfully ask that more consideration should be given to what the railways can really afford. (Hear, hear.) Before petitions to lower rates and raise wages are granted, before extra service, extra equipment, and extra facilities are ordered, let the commercial aspect be considered, and I ask this as much in the public interest as in the interest of the railways, for nothing can be better for the railways, or for the public, than that the railways shall be in such a financial position as to be able to satisfy all the reasonable demands of their customers. (Hear, hear.) Our first consideration is, and always must be, the safety of the travelling public, and it is our desire to do all that is possible to ensure safety, but remember, the public are always demanding more speed, more trains, and fewer stops, and every such demand must make it more difficult to ensure perfect safety, and must cost the railways more money. As an instance of the impatience of travellers, I give this statement, made to me by a passenger on one of the liners going to one of the Canadian ports. He said that, owing to fog, they were almost stationary for two days, and, turning to another passenger, he said: "What is this old stupid muddling about for? Why doesn't he go on? I shall lose my train," and he went on to say, "I never felt smaller in my life when the first news we had on landing at Quebec was that of the 'Titanic' disaster. I felt, then, what gratitude we owed the captain, and what a small matter after all was the missing a train, or losing a day." (Hear, hear.)

This is an example of the impatience of the travelling public in the shipping line, but it is paralleled daily in the railway world. What does it really matter if a journey of 20 miles takes seventy minutes instead of sixty—hear, hear—or if in travelling the 1,000 miles from New York or Montreal to Chicago the train takes an hour more or less, or, to put it in a way familiar to most of you, what does it really matter if you leave Euston or King's Cross, say, at 10, whether you arrive in Edinburgh at 6 or 6.30 in the evening? Yet that extra half-hour, if gained, must have diminished the margin of safety not only in the mechanical running of the train, but in the increased wear and tear on the nerves of the drivers and firemen. (Hear, hear.) Compare the luxury and speed and frequency with which we travel by sea and land to-day with the way our fathers travelled, and the rates charged to-day are lower on the average than they were then, yet the demand for more service and more luxury never ceases. In every other business a better article justifies a better price, and if the railways are to continue to put in new and expensive appliances to increase the safety of the public, to run more trains, and to meet the ever-increasing demands of their employees for higher wages and shorter hours, and of the public for increased facilities, an increase of rates must be given to enable the railway companies to find the capital to meet such demands. (Applause.) The necessity for higher rates is so urgent, and the demand is so just, that I cannot believe the people of Canada and America will long resist it, and in support of the reasonableness of my belief I am glad to call your attention to the glad tidings telegraphed from New York, and published

glimpse the railway world in America has had. If the policy thus indicated is continued, the result will be to place the railway in a position to meet the demand of the public and the railways. I am also glad that it is the only policy by which the railways can continue to increase





## BUENOS AYRES GREAT SOUTHERN RAILWAY.

The annual general meeting of the Buenos Ayres Great Southern Railway Company, Limited, was held at the Hotel de Ville, Buenos Ayres, on the 11th of October, 1913.

The Chairman (Mr. A. G. G. G.) read the report of the directors for the year ending 31st December, 1912.

of which appeared in the RAILWAY TIMES of October 11), said that for the third time in succession in presiding at this annual meeting it had been his pleasure to report that the receipts for the year under review had been the record ones for the history of the company. The receipts for the year 1912-13, amounting to £275,000, were an increase of £17,088 on the receipts of the year 1911-12, whereas the train miles run only increased by 17.68 per cent. This satisfactory result was further emphasised by the amount of passenger traffic, which was 1,171,178, as compared with the year mentioned, of 828 miles of new line. The principal items which had contributed to these excellent results were the receipts from passenger traffic, showing an increase of £275,000, general goods with an increase of £178,819, wheat and maize with additional railings of £113,400, and the first mentioned harvest did not come up to expectations, and stone with £101,995 more than last year. The most marked

relating to the second-class ordinary fares, amounting to no less than £101,995, to the transport of labourers to deal with the heavy cereal harvests. The ten years' comparative statement showed the extraordinary development which had taken place in the passenger traffic during the period dealt with, this having increased since the year 1903-4 from 7,000,000 to 27,000,000, increases were again recorded against nearly every item. Maize, due to the complete failure of the previous crop, naturally showed up most prominently. The next largest increase was that of general goods, with an advance of 445,000 tons in quantity, and £180,000 in amount. The percentage of working expenditure to receipts, after deducting the additional contributions to the renewal funds, was lower than had been the case for eight years.

After deducting items over which the management had no control, there remained an amount of £486,218 to represent the additional cost of earning increased gross takings of £1,165,249. The largest item of increase in the working expenses was under the head of permanent way and works, which amounted in all to £215,220, or, after deducting from it the renewal fund contribution and deferred maintenance credits, say £141,464 net increase. He did not make any apologies for this increase, as anyone acquainted with railway working knew that nothing was easier than to make a fictitious show of economical working by cutting down permanent way maintenance expenses. The next largest item of increased expenditure was under the head of locomotive running, and the principal cause was coal, which accounted for no less than £98,155, or, say, £60,205 due to increased consumption, and £37,890 due to higher price. The price per ton was £1 11s. 5d. in the previous year. It was satisfactory to record that there had been a distinct economy in fuel consumed per ton of paying traffic hauled. The amount per 1,000 traffic ton miles had fallen from 908 lb. to 604 lb., or 14 per cent.

Turning to the paragraphs in the report, one dealt with the Midland Railway. That railway ran up the middle of the neutral zone lying between the Southern and Western systems which had acquired control of it. The results had not been very great so far, but they showed a gradual improvement, and there was every reason to hope that in time it would begin to yield a fair return on the capital outlay.

In regard to the extraordinary meeting in July were that though there was delay there was no sign of opposition. It came on the board like a bolt from the blue, therefore, when in August the Government of the Province of Buenos Ayres introduced in the Legislative Chamber of the Province at La Plata a Bill for the extension of the Buenos Ayres Great Southern Railway in its extension policy. The zone covered by their lines in the Province of

foreign capital other than British was beginning to show considerable interest in railway construction in Argentina, they had only some 2,250 miles of line spread over that great area, and the board thought that if they didn't set about filling in the rather wide gaps that existed between some of their lines those six years they had built almost exactly 1,000 miles of new railway all in the Province of Buenos Ayres, and there

titles of new line, mostly in the Province of Buenos Ayres, within a period of six years, but this Provincial Government scheme practically prevented them building a single mile. It was this action of the Province of Buenos Ayres that definitely decided the board to withdraw the Amalgamation Bill. They were also, to some extent, influenced by the tone of the recent discussions in the National Chambers on the subject of the proposed Pension Law, for their whole scheme was naturally based on the continuance of the same conditions as they had been working under for years past. In the discussions on the Pension Law, there appeared to be a tendency to ignore the fact that under the Mitre Law the company were entirely exonerated from all taxation of any kind till the end of 1906 by a single payment of 3 per cent. on their net receipts. The company had no obligation to accept this Law, and they only did so because they considered it would have been impolitic and ungenerous of the Great Southern to stand out when all the other railways were accepting it. He was convinced that the sense of justice and fair play would in the end win the day. Perhaps, however, it was the erroneous idea that the company had something up its sleeve in proposing the amalgamation that had created the opposition to it. He could sympathise with Argentines feeling a little jealous of seeing their principal railways controlled by foreign capital. He had often asked Argentine friends why they didn't buy shares in the railways, and the most invariable reply was that the rate of interest wasn't attractive enough—(laughter)—and they could invest it better in land or house property.

Some shareholders might think that the abandonment of the amalgamation would mean that the companies would lose

in working. Whilst there was no doubt that the amalgamation would have been beneficial at a price, he saw no earthly reason why the two companies should not go along separately for many

growing concerns. (Applause.) Now that they had retired their amalgamation proposal, it was reasonable to suppose that the Province of Buenos Ayres would not give effect to its proposals. The estancieros and farmers, who were the principal rate-payers, knew very well that what the Province of Buenos Ayres wanted, in order to develop it by cheapening production, was not so much more railways as better roads over which to convey the produce from the farm to the railway station. He doubted if outside the towns there were 100 miles of macadamised roads in the Province of Buenos Ayres.

In the course of the discussion in the Provincial Chambers a curious misunderstanding was displayed with regard to the earnings of this railway, for it was argued that these provincial lines, when built, would be able to charge lower tariffs than this company did. In practice they would find it difficult to charge tariffs as low as this company's without working at a heavy loss. This company's tariffs were lower than those of most other private-owned railways in the world, except those in the United States, and the latter were doing everything they could to get the Inter-State Commerce Commission to allow them to raise their tariffs on the ground that they were too low to be paying.

In regard to the railway employers' pension scheme, at present before the Argentine Congress, no one could charge the company with not being in sympathy with the idea of

they put in force a pension scheme which had been working ever since, and made no call on the employee whatever. They had also grants to widows and mortgage loans to employees. Doing all this, it was peculiarly hard that they should have forced on them a State pension scheme. The matter was still in the Chambers, and he hoped that, as ultimately framed, it would be less onerous in its conditions.

A good deal had been said lately about the mania for extensions with which the boards of Argentine railways were said to have been afflicted in recent years. He would like

of the Buenos Ayres Great Southern Railway in its extension policy. The zone covered by their lines in the Province of

foreign capital other than British was beginning to show considerable interest in railway construction in Argentina, they had only some 2,250 miles of line spread over that great area, and the board thought that if they didn't set about filling in the rather wide gaps that existed between some of their lines

those six years they had built almost exactly 1,000 miles of new railway all in the Province of Buenos Ayres, and there



## CENTRAL ARGENTINE RAILWAY.

before you on the present occasion, and it is with gratification that I tender congratulations to you upon the fact that the past financial year establishes a record in the annals of the company. Under every heading of the railway's revenue there have been substantial increases, and our gross income from

follows, has increased because of expansion in mileage and opening of new stations, whilst coal has also cost more, mainly owing to the higher ruling freight market. These particular rises fall under the heading of running expenses. Where, however, the greatest increase is discernible is under maintenance of permanent way, locomotives, coaching, and goods and animal stock. With the superlative traffic which have favoured us throughout the year, it will be appreciated that not only must the cost of maintenance go up, but wear and tear have to be provided for in a degree commensurate with the traffic handled and the train and engine miles run necessary for conveying the greatly enhanced number of passengers and freight.

The figures in the report show you, over 21,000,000 passengers and some 10,000,000 tons of produce, merchandise, live stock, etc., in the year under review. There are two items to which I would like to make passing reference. They are our investments and the amount due to us by the Argentine Government for the work we have done for their account on the Rio Tercero irrigation scheme. Our investments represent a considerable sum and, as things go, you may wonder whether the £851,000 at which they stand in the balance-sheet is reliable. As a matter of fact, it is satisfactory to be able to tell you that the depreciation at June 30 last merely amounted to something under £20,000. In regard to the irrigation works, we have disbursed some £140,000, and this will in due course be reimbursed to us in bonds with 5 per cent. interest from the dates of the disbursements.

I may now, perhaps, most conveniently tell you about the visit which I paid to the property this year. I went out in March solely in your interests and returned at the end of June, so that I had two months in Argentina in which to go into all important matters connected with the company's operations, and to discuss personally with our representatives the many questions which of necessity arise in the carrying out of the business of a concern of our magnitude. I can only assure you that as the result of daily close intercourse, not merely with the general manager, but with his principal officers, I have been confirmed in the conclusion that the interests of the company are in every direction exceedingly well cared for. On all sides there is tangible evidence of the markedly good organisation built up by Mr. Pearson, and everywhere keenness and energy, ability and loyalty are the keynote animating, not only the officers but the whole staff generally, and this latter description applies to our Argentine

Now, speaking of the people of the country, I had, as on previous occasions, the same courtesy and kindly reception from the President of the Republic, the members of the possible intimate intercourse with many of the leading inhabitants, my thanks for the marked attentions and many kindnesses

stronger impression of exuberant wealth than in Buenos Ayres. Exactly the same signs are visible in Rosario, the population of which numbers some 300,000 souls. Between these, the two most important cities, Mr. Pearson has instituted a fast service of non-stop daily trains, which cover the 300 kilometres in under five hours. This limited express

merchants in Rosario to come to Buenos Ayres to attend to

Once the doubling of the line is completed a similar train will run from Buenos Ayres to Rosario and back, and at present we are busy pushing on, within the measure of our means, with the stone ballasting of the two tracks. Great develop-

inaugurated. In Tucuman I found proof of the record sugar district as a winter resort.

I also visited the irrigation works, which we are constructing for account of the Government. These are destined to still further and materially aid the province of Cordoba, for the cultivated portions of it which will be favoured by irrigation will cease to be endangered in odd seasons by drought. I repeat that in my personal opinion, much as some may say that I am too optimistic about the future of Argentina, that country is merely in its infancy. In ten years Argentina's

and the imports from under £24,000,000 to £70,000,000, whilst the Argentine wheat exported has expanded from about 150,000 to 2,000,000 tons, and maize from just over 1,000,000 to close upon 5,000,000 tons. Over the same period the cultivated land

What, I ask, is there to retard the progress of such a country?

Perhaps before I deal with something arising out of the branches I may take the opportunity at this point to refer to that part of the notice convening the meeting which seeks your authority for increasing our capital. This increase will in time be required for completing some of the works to which I have referred and for supplying the extra rolling stock of all kinds rendered necessary, not only by our growing business

making any issue at present, but it saves time, trouble and money if one avails of the annual general meeting for taking powers of this nature. I think, however, that I am safe in saying that when the issue is made, whatever its nature, it is to our own holders that the offer will in the first place be

dispenses with expenses incidental to a public issue and avoids the payment of underwriting commissions. Excellent as were the results of our last year's working, since its close on June 30 last we have been doing even better. It is true that last

by the fact that we have had heavy rains. These invariably render the roads difficult for cartage, but it is satisfactory to know that, even although for a week or two our traffics may be deferred, the crops are benefiting, for rain was wanted for the growing linseed.

ventilated, sometimes in an almost hysterical manner, and that is competition. Those of you, and it is gratifying to know that there are so many of you in this category, who have been shareholders for very many years are, of course, aware that our railway has almost throughout its existence been subjected to the acutest competition from every quarter. We have narrow gauge lines traversing our districts not infrequently paralleling us, and beyond that, between Buenos Ayres and Santa Fe, there is one of the finest navigable rivers extant. Nevertheless, we go steadily forward and show results, both gross and net, which will compare favourably with those of any other railway in the country. We do not possess the morbid fear of competition, because our past experience has

never been unmindful of the districts where we thought that we were satisfied that the limits of cultivation could be increased by railways.

the policy of encouragement to the cultivation of crops which country it is today, will be scarcely less continued in the future.

To those of you who take a close interest in events on the



other side, I was able to address a few words on another subject, and to propose to the Congress to institute a Railway Employees' Pension Fund. A scheme was discussed in the House of Deputies, and in due course was passed to the Senate. In both Chambers the representatives of the railway companies were invited to attend in committee and submit their views. In the Senate fundamental modifications were made to the ideas propounded by the Deputies, but if I were asked to-day to give an opinion I should have to confess that the whole question is in so indefinite a position that it would be impossible to express any views in detail upon what are at the moment merely principles. What, however, I do say is that my colleagues and I have always recognised that something should be done to provide for the welfare of those employees who have loyally spent the best years of their lives in serving, not merely the shareholders, but the public, and it was because of our appreciation of this fact that we instituted in 1903 a non-contributory pension fund of our own. No one could, therefore, justly tax us with want of sympathy with any rational scheme for providing for the retirement of the men who have done loyal service to the company. All that we shall submit in the fullness of time, and if such a submission should prove successful, it is that we shall be allowed to provide for our own people and to ensure that they reap the full benefit of such provisions.

We are delighted to have with us to-day Dr. Frias, the energetic president of our local committee, who has been so intimately connected with us for so many years, first as our chief legal adviser and, since May, 1907, as the chairman of our committee. Dr. Frias has your interests as fully at heart as I have all of us. He has been enjoying a well-earned rest in Europe and returns to his duties at the end of this month. Our able general manager sails to-morrow to seek a holiday and no doubt we shall be glad to welcome him amongst us ere long.

I will now read to you the cable that has come to hand from the local committee, dated 21st instant, which is as follows:—"Present prospects for coming harvest could hardly be more favourable. Growing wheat and linseed now are in excellent condition, and wheat average has been sown. We estimate 400,000 tons cereals from last harvest still to be carried. Maize area equal or more than last year. Sugar harvest heavy. General outlook good."

I feel that you will concur with me that the prospects are favourable, respect past satisfaction, and again I venture to hope that we may meet next year here with as gratifying a position as which I have been privileged to have before you to-day. (Applause.)

Mr. P. Riddock seconded the resolution, which, after a few remarks by Messrs. Seymour and Evans, was carried unanimously.

The dividends recommended were declared, the retiring directors being duly re-elected, and the meeting sanctioned the proposed increase of capital to £41,604,468, by £5,000,000, to £46,604,468.

Votes of thanks were accorded to the directors and the staff generally, and 100 guineas were voted to the Lord Mayor's Fund for the sufferers from the Welsh colliery accident.

**Western Railway of Havana.** Mr. C. J. Cater Scott, president of the annual meeting of this company, in Winchester House, Old Broad Street, E.C., on Wednesday, said there was a general feeling of satisfaction, and they proposed to transfer the company to the Havana Electric Railway Co., Ltd. They recommended that the company should be re-named the Havana Electric Railway Co., Ltd., and that the capital should be increased to £1,000,000. He invited the shareholders to attend the meeting about to be held of the United Railways of Havana (reported in this issue), where a general statement would be made. The report was adopted.

**"Home by Underground and Motor 'Bus'."** This is the title of an attractively illustrated and well-printed volume of 152 pages, published by the Electric Railway and allied companies from Electric Railway House, Broadway, Westminster. Judging by the demands received for free copies, the publication is meeting a want in the form of a guide to the various lines of the London Underground Railway. The preface shows what has been achieved by the linking up of train, bus and tramcar, and in setting out the facilities the compiler has not hesitated to give the connections with other lines, not with the London, Chatham and Dover Railway. Another serviceable publication is a small folder containing a list of the various lines of the London Underground Railway, and the various stations and termini.

## UNITED RAILWAYS OF THE HAVANA.

The annual meeting was held on Wednesday in Winchester House, Old Broad Street, E.C., Mr. C. J. Cater Scott presiding.

The CHAIRMAN, in moving the adoption of the directors' report (a summary of which appeared in last Saturday's RAILWAY TIMES), first referred to the sad loss which the company had sustained by the death of Mr. Underdown, one of the directors. Mr. Underdown, he said, had been a director of the company from the beginning, and for the first nine years was chairman. He had carried through some very important operations on behalf of the company, with the result that they now stood in a very strong and almost unrivalled position in the districts which they served. The company had lost a valuable director and the board had lost a most sympathetic and kindly friend. Turning to the report, the Chairman said that the board were glad to be able to announce a very great development in the various properties in which they were interested. They held 98 per cent. of the shares in the Western Company and about the same in the Havana Central Company. In the case of each of the three companies they had seen very marked developments during the past year, and especially was that the case with the United and the Havana Central. As a matter of fact, all three companies had established records in regard to both their gross earnings and their net receipts. They undoubtedly had to thank two good sugar crops with which Cuba had been favoured in the last two years for that result, and he thought that they on his side might take some credit for the fact that they had always adopted a policy of doing what they could to improve the business of the company, and at the same time they had felt it their duty—even when only recommending a very moderate dividend—to strengthen the reserves of the company. The fact that on the present occasion they were able to declare a dividend of 5 per cent., at the same time materially strengthening the financial position of the company, was a matter for congratulation. Some might think that they had taken an unduly large amount for strengthening the position, but they had felt that they were working with the full support and confidence of the shareholders, and if they had not felt that, their work would have been much heavier and much more difficult. With regard to the United Railways, they had during the past year enjoyed a time of very great prosperity. Under practically every head of their business they showed a very material increase. There was a considerable interest in the comparisons of the results of the past year with those of 1908-9. In that comparison it was seen that in those four years the passenger receipts had risen from £307,000 to £444,000, sugar traffic had risen from £322,000 to £493,000, and general goods from £265,000 to £430,000, the total having risen from £894,000 to £1,307,000, or over 50 per cent. They, however, had low prices for sugar. This had meant a considerable reduction of money going into Cuba as the result of sales of sugar, and this had affected the current general traffics. As compared with the good advances recorded in the last two years up to date, the current increase had been only £2,500. In spite of this they could look forward to a good year. They had just received a cablegram from the general manager, which stated that the cane was in excellent condition except in two or three districts, where the rainfall had been slight during July and August. There had been little rainfall all over the districts during the present month, which retarded the cane. Otherwise 1913-14 promised to be in excess of last year. However, it was estimated that they would reach last year's crop of 80,000 tons, which was the amount their own railway carried last year. They had received advice which stated that the President had remarked that it was not the intention of the Government to prejudice the legitimate interests of the company in regard to the company's tariff, but to be revised. From private information he felt that the proprietors had not much to fear from the revision. In conclusion, he explained a special resolution to be submitted for altering the articles of association of the company so as to give them power to guarantee the shares, obligations and other securities of the company.

Sir H. M. Jackson seconded the motion, and it was adopted. A resolution was afterwards agreed to altering the articles of association.

**Refusal of Increased Rates to Eastern American Railways.** The Inter-State Commerce Commission has ordered that for two years the railroad rates on imports west and from New York and Boston shall not be changed. The eastern railroads recently petitioned for an increase in the present rates which was refused by the commission.

## PARAGUAY CENTRAL RAILWAY COMPANY.

The twenty-fifth general annual meeting was held on Thursday at Sunday House, P.O. Mr. Victor A. Broadbent (Vice-Chairman) presiding. The SECRETARY (Mr. J. Lauber) read the notice convening the meeting and the auditors' report.

This was seconded by Mr. S. F. MENDEL and carried unanimously. Messrs. V. V. Bramford and J. H. S. Lawton were re-elected directors. The CHAIRMAN stated that one of the conditions of the arrangement with the Argentine Republic was that they had the right to nominate a director of this company. The Republic had nominated Mr. E. Schickendantz, a distinguished official, who was Director-General of the Railways of the Argentine Republic. He therefore moved "That Mr. Schickendantz be and is hereby re-elected a director of the company." This was seconded, by Mr. C. F. MENDEL and carried unanimously. The auditors Messrs. Deloitte, Plender, Griffiths and Co., having been re-elected, a vote of thanks was passed to the staff at home and in Paraguay.

## BARSİ LIGHT RAILWAY.

## MEXICAN RAILWAY.

The accounts for the half-year ended June 30, 1913, shows an expenditure of £9,179,805, whilst the receipts have been £9,238,450, as follows:—Ordinary stock, £2,254,720; first preference stock, 8 per cent., £2,554,100; second preference stock, 6 per cent., £1,011,060; perpetual debenture stock 6 per cent., £2,000,000; second debentures 4½ per cent., £485,500; subvention money, £772,339; sale of land, etc., at Vera Cruz, £145,331; 4½ per cent. second debenture redemption account £14,500.

The revenue account for the half-year to June 30 shows the gross earnings to have been as follow:—

	1912-13	1911-12
Passenger traffic .. .. .	£4,123,092	£4,207,702
Goods traffic .. .. .	£1,781,171	£2,022,114
Luggage, parcels, animals, etc. ..	£21,400	£22,714
Telegraph expenses .. .. .	£9,177	£9,177
General charges, etc. .. .. .	£61,338	£61,338

Total receipts .. .. . £6,096,177 .. £6,323,145

The working expenses for the same period were as under:—

	1912-13	1911-12
Maintenance of way and structures ..	£370,526	£317,822
Locomotive power .. .. .	£14,100	£26,188
Carriage and wagon repairs .. .. .	£1,000,000	£1,000,000
Traffic expenses .. .. .	£10,000	£10,000
Telegraph expenses .. .. .	£10,000	£10,000
General charges, etc. .. .. .	£10,000	£10,000

Total .. .. . £1,404,626 .. £1,374,010

As shown above the gross earnings of the line in the half-year amounted to £4,824,265, or an increase of £378,148, compared with the corresponding half of 1912. The receipts from passengers and luggage increased £218,751, and from express £34,047, making a total increase of £253,398. The receipts from foreign goods increased £90,181, and from national goods £34,146. Sundry earnings increased by £123. Working expenses were greater by £250,752, but the ratio of operating expenses to earnings was 47.09 per cent. The increase was due to additional cost of handling goods at Vera Cruz and also to a considerable falling off in export traffic.

The net revenue was £2,822,000, or £285,300 more than in the first half of 1912. This, at the average exchange of 22.510d., produces £230,513. Adding to this £1,022 from interest and fees in London and £101 balance brought forward, and deducting £6,848 for difference in exchange there is a total in net revenue account of £233,878, which is less by £15,451 than the amount at the close of the corresponding half-year of 1912. The sum at the disposal of the company, after payment of £60,000, interest on debenture stock and the provision of £12,750 for interest and sinking fund on the 4½ per cent. second debentures is £161,128, which will suffice for the payment of the full dividends for the half-year on the first and second preference stocks, absorbing £102,164 and £30,359 respectively, leaving a balance of £28,605. This will suffice for the payment of a dividend less income-tax at the rate of 2½ per cent. per annum on the ordinary stock, absorbing £28,184, and leaving a balance of £421 to be carried forward.

The number of passengers carried was 980,332 (an increase of 130,753); the average fare \$1.47 (against \$1.44), the quantity of goods carried, 497,932 tons (against 478,339 tons). The length of line open 603 kilometres; the ratio of working expenses, including general charges, 47.09 per cent. (against 45.25 per cent.).

The continuance of revolutionary movements has adversely affected the trade of the country, but the closing of northern points of entry, and the partial interruption of traffic on the National Railway of Mexico.

The revenue of the National Railway of Mexico for the half-year ended June 30, 1913, was £1,000,000, or £100,000 more than in the corresponding half of 1912. This accounts in a large measure for the increase in the company's gross earnings. The surplus revenue of the half-year was remitted to London.

The revenue of the National Railway of Mexico for the current half-year the rate has varied between 10.157 and 17.55 pence. The company acquired by purchase, in August of the present year, the San Marcos to Huajuapam Railway. This is a 3-foot gauge line, and extends from the main line station of San Marcos for 120 kilometres in a south-westerly direction. A certain amount of repair work is required to put the railway into good working condition, and it is not anticipated that the necessary renewals will be

to be derived from the line will not be large at first, but the board are of the opinion that, with a regular train service, a considerable expansion of traffic is probable.

## CUBAN CENTRAL RAILWAYS.

The accounts to June 30, 1913, show a total capital expenditure of £3,892,788, whilst the receipts were £3,999,912—viz., ordinary £10 shares, £900,000; 5½ per cent. preference £10 shares, £120,000; 4½ per cent. mortgage debentures, £798,600; mortgage bonds of the old companies still outstanding, £112,612; 5 per cent. debenture stock, £900,000; 4½ per cent. debenture redemption account, £88,700.

The receipts on revenue account for the year ended June 30 were as follow:—

	1912-13	1911-12
Passenger traffic .. .. .	£117,050	£104,376
Goods traffic .. .. .	447,000	350,554
Luggage, parcels, animals, etc. ..	51,084	45,052

Total .. .. . £617,603 .. £499,982

In the same period the expenses were as shown hereunder:—

Permanent way and works .. .. .	£103,501	£88,140
Locomotive power .. .. .	98,608	75,471
Carriage and wagon repairs .. .. .	30,254	26,411
Traffic expenses .. .. .	57,724	50,377
Telegraph expenses .. .. .	2,374	1,790
General charges, etc. .. .. .	60,138	51,411

Total .. .. . £352,089 .. £293,900

The net receipts for the past half-year were thus £264,914, as against £206,082 for the previous year.

To the balance of £264,914 must be added various items amounting to £12,504, making £277,418. Taxes in Cuba absorbed £8,021; interest and amortization of rolling stock bonds, £6,855; rent charges, £8,639; interest and sinking fund on 4½ per cent. mortgage debentures, £48,295; interest on 5 per cent. debenture stock, £45,000; income tax, £225; balance of premium on 6 per cent. debenture stock written off, £7,000; permanent way suspense account—additional appropriation, £7,000; renewal and casualty fund, £30,000; general reserve, £10,000; interim dividend on preference shares, £33,000; leaving a surplus of £73,383.

Out of this surplus the directors recommend the payment of the following dividends:—Dividend for the half-year to June 30, 1913, on the 5½ per cent. cumulative preference shares, £33,000; dividend of 3 per cent. on the ordinary shares, £27,000; leaving £13,383 to be carried forward.

The number of passengers carried during the year was 1,006,736 (against 894,043); the average receipts per passenger 2s. 4d. (against 2s. 4d.); the quantity of freight carried 3,243,752 (against 2,610,988 tons); the number of cattle carried 13,545 (against 12,368); the number of train miles run 905,057 (against 713,370); the receipts per train mile 13s. 7½d. (against 14s. 0½d.); the expenses per train mile, 7s. 9½d. (against 8s. 3d.).

The report states:—The gross receipts, which constitute a record, amounted to £617,603, and compared with the results of the previous year, show the satisfactory increase of £117,621 or 23.53 per cent. The working expenses amounted to 57.11 per cent. as compared with 58.78 in 1911-12. The total mileage of main line now open for traffic is 337. Construction is being continued from Sierra Morena to Corralillo, a distance of 8,120 kilometres, and the Malezas extension is being prolonged to the town of Cumanayagua (3.8 kilometres). The construction of both these extensions is expected to be completed before next Zafrá. In order to deal with the increased traffic, orders have been placed for the following rolling stock: 7 standard gauge locomotives, 1 narrow gauge locomotive, 190 standard gauge flat cars, 120 standard gauge covered cars, 10 standard gauge coal cars, 10 narrow gauge flat cars, 15 narrow gauge covered cars, and 3 first-class passenger coaches. The proposed construction of a railway from Caibarién to Nuevitas has been carefully considered by the board, and the proprietors will be given particulars of a proposed contract with a new company which has been formed to construct and work that railway at the forthcoming general meeting, and will be asked to approve the board's entering into such contract. The Chairman paid a visit to Cuba in March last and made a thorough inspection of the company's property, and had the advantage of discussing with the general manager many important matters affecting the company's interest.



## DIVIDEND ANNOUNCEMENTS.

**PAN AMERICAN RAILWAY.**—A dividend of 10 per cent. on the preferred stock is declared payable on November 10.

**NORFOLK AND WESTERN RAILWAY.**—A dividend of 1 per cent. upon the adjusted preferred stock, payable November 15.

**CUBAN CENTRAL RAILWAYS.**—A dividend of 6s. per share, less tax, on the ordinary shares for the year ended June 30. A year ago the dividend was 4s. per share.

**BUENOS AYRES AND PACIFIC RAILWAY.**—The directors recommend a dividend of 3 per cent. on the ordinary stock for the year ended June 30. A year ago the distribution was 2 per cent.

**BRITISH RAILWAYS.**—The directors have decided that a final distribution of £1 15s. per cent. be recommended on account of surplus profits which will be distributed with the guaranteed interest payable on December 31.

**SOUTH INDIAN RAILWAY COMPANY.**—The directors have decided to recommend payment on January 1, 1914, of a final dividend from surplus profits on account of the year 1912 of  $\frac{1}{4}$  per cent., making a total payment on account of the year 1912 of  $\frac{1}{4}$  per cent.; also the guaranteed interest of  $\frac{1}{4}$  per cent., and the guaranteed surplus profits of  $\frac{1}{4}$  per cent. for the half-year to December, 1913, and the dividend from surplus profits for the year 1913  $\frac{1}{4}$  per cent., making a total payment on account of the year 1913 of  $\frac{1}{4}$  per cent. The total payment to be made on January 1 will be  $\frac{1}{4}$  per cent.

## AN ELECTRICALLY-PROPELLED CARGO VESSEL.

The electrically propelled cargo vessel "Tynemouth," built this year on the North-East Coast of England for service on the great lakes and canals of North America, has now run preliminary trials. The vessel has been built by Smith's Dock Co., Middlesbrough, to the order of Messrs. Swan, Hunter and Wigham Richardson, Wallsend, to the classification of the British Corporation Registry and for the Electric Marine Propulsion Company, which was formed to develop the system associated with the name of Mr. H. A. Mavor.

The vessel is 250 ft. in length, 42 ft. 6 in. in breadth, 19 ft. in depth moulded, and she is adapted to carry 2,400 tons of cargo. The propelling machinery consists of two six-cylinder Diesel engines, each capable of developing 300 b.h.p. when running at a speed of 400 r.p.m. These engines were built by Messrs. Mirreles, Bickerton and Day, Stockport. To each is direct coupled a three-phase alternator by Messrs. Mavor and Coulson, Glasgow. The power of both these generating sets is led into one three-phase squirrel-cage motor of special construction, which is direct coupled to the propeller. The system of electric transmission employed is that which has been worked out and patented by Mr. Henry A. Mavor. It was tried two years ago in the launch "Electric Arc," and the results were so satisfactory as to lead to machinery of the same type, but on a very much larger scale, being adopted in the case of the "Tynemouth."

The features of the system are the use of alternating current of two different periodicities. For the purpose of generating this current one of the alternators is provided with eight poles, while the other has six poles only. The motor is provided with two different windings, one adapted to receive the higher periodicity current, the other the lower periodicity current, and when both these windings are in use the motor runs at full speed, and the highest speed of the ship is attained. In order to reduce the speed of the motor without reduction of the engine speed the connections are altered so that one generator and one of the motor windings only is in use. The other engine and generator can then be shut down.

**Value of Advertising to Railways.**—The following figures, compiled by the London Passenger Traffic Committee, show that 77,000 people were catered for in this manner during the past year, and this represents an increase of 10 per cent. on the previous year. The increase in the number of passengers from District Railways in the same period was 28,000, an increase of 70 per cent. on the number for the corresponding period of the previous year.

## CANADIAN RAILWAY NEWS.

**Extension of Tete Jaune Line.**—The line has been extended west of Tete Jaune to mile 1160, which brings the line to the second crossing of the Fraser River, and which is ninety-four miles west of Tete Jaune.

**Difficulties Experienced by the Canadian Pacific Railway in getting supplies for its dining cars at various points west, the company started demonstration farms, to show what could be done, in the way of producing milk, cream, vegetables, eggs, etc. The supplies from the demonstration farms were simply doubled. The farmers have not been slow to perceive the advantage of copying the company's methods, and to-day the latter can get increased quantities of supplies as a consequence of the lesson learned. The milk and cream, after being pasteurised, are put in sealed bottles, with the date of milking shown thereon, and the bottle is only opened in the presence of the passenger. The eggs, too, are stamped with the date, packed in cartons, and sealed for the commissary store, to be turned over to the dining-cars as needed.**

**PROFITABLE TREATMENT OF EMPLOYEES.**—With a view to the welfare of its employees in the sleeping and dining-cars, the Canadian Pacific has provided homes for them at all the great centres, such as Toronto, Winnipeg, Moose Jaw, Calgary, and Vancouver. The C.P.R. is the only company on the American continent which has gone to this trouble and expense with respect to this class of employee. The service is recommended, it is stated, by the neatness of the attendants, of whom 4,000 are employed in the sleeping and dining car department. It is claimed that the company could transport an army of 30,000 persons from Vancouver to Halifax, giving each a berth to sleep in and supplying 90,000 meals per diem, or practically half a million on the five and a half days' journey across the continent.

**CANADIAN PACIFIC LANDS.**—The Canadian Pacific Railway has at present about 100,000 acres of land ready for irrigation and immediate settlement in Southern Alberta. It is announced that within a year the whole of this district is to be settled. This announcement means a minimum of 1,000 new farms and, it is calculated, an increase in the population of the district of some 25,000 people.

**GREAT SHOPS OF THE CANADIAN PACIFIC AT OGDEN, CALGARY.**—Calgary is the main divisional point for the west of the Canadian Pacific Railway and the shops, on which, £2,500,000 cash has been spent, were begun early in 1912 and opened 1913, and are now in full operation. Twelve large steel frame buildings have been erected and the grounds comprise in all 480 acres, lying five miles south-east of the city and quite close to the Bow River. The whole plant is operated by electricity and compressed air, the power being supplied by natural gas, which is pumped from the vicinity of Calgary. The whole plant is thus clean and free from smoke. A feature of the shops is an electric yard crane, equipped with a ten-ton magnet which, with two operators, will pick up and load a freight car load of the heaviest scrap iron better and more quickly than twenty men could do it by hand. The efficiency and careful planning of the shops are causing them to be used as models for similar installations both in Canada and the United States.

## LONDON'S PASSENGER TRAFFIC.

The following figures, showing the expansion of London's passenger traffic in 1912, as compared with 1911, have been compiled by the *Pall Mall Gazette*—

Mode of Transport	1911	1912
London Passenger Traffic	1,100,000	1,200,000
Metropolitan Railway	1,000,000	1,100,000
District Railways	100,000	280,000
Omnibuses	100,000	100,000
Cabs	100,000	100,000

The total net increase in the number of passengers in 1912 per day for every day, and this in a year in which bad weather and strikes of workmen had a very retarding effect upon the ordinary movement of traffic. In these figures no account is taken of the number of privately-owned motor-cars or other vehicles and their passengers. The population of Greater London in 1912 is estimated at 7,340,070, so that the equivalent journeys work out at 300 per inhabitant per annum.

## GENERAL NEWS.

### A ROYAL COMMISSION ON RAILWAYS.

#### DEED KEEPER WITH THE STATE.

It was officially announced yesterday that the King has approved the appointment of a Royal Commission to inquire into the relationship between the railway companies of Great Britain and the State in respect of matters other than safety of working and conditions of employment, and to report what changes if any are desirable in that relationship. The following are the Royal Commissioners:

The Earl Loreburn, G.C.M.G. (Chairman).  
The Earl of Derby, G.C.V.O.  
Right Hon. Sir H. Primrose, K.C.B.  
Right Hon. F. Huth Jackson, late President of the Institute of Bankers.  
Sir F. R. Upcott, K.C.V.O., late Chairman of the Board of Indian Railways.  
Sir W. Plender, late President of the Institute of Chartered Accountants.  
Mr. A. Balfour, late Master Cutler of Sheffield.  
Mr. K. L. Prothero, M.A., F.R.S.  
Mr. D. J. Shackleton.  
Mr. E. W. Rowntree, of the Board of Trade, will act as Secretary to the Commission.

In regard to the members of the Commission Earl Loreburn is an ex-Lord Chancellor. Sir Henry Primrose may be taken as the expert on public administration; he has been Secretary at the Office of Works, Chairman of the Board of Customs, and was Chairman of the Board of Inland Revenue from 1890 to 1907. Since then he has been Chairman of the Pacific Cable Board. Mr. Huth Jackson is a director of the Bank of England, and has been President of the Institute of Bankers. Sir Frederick Upcott has had a varied experience of the working and management of Indian railways; he was Government Director of Indian Railways from 1901 till 1904 and Chairman of the Board of Indian Railways until 1908. Sir William Plender is the head of a well-known firm of chartered accountants, and has been President of the Institute of Chartered Accountants. He has been auditor to many railways in England and abroad. Mr. Rowland E. Prothero was editor of the *Quarterly Review* from 1894 till 1899, and is now agent-in-chief to the Duke of Bedford, and has much experience regarding agricultural subjects. Mr. A. Balfour is managing director of the firm of Messrs. Seebohm and Dieckstahl, and served as Master Cutler of Sheffield a year ago. He has had a long experience of commerce and manufacturing in England and the United States. Mr. D. J. Shackleton has been President of the Trade Union Congress, is Senior Labour Adviser at the Home Office, and an Insurance Commissioner; he may be said to have a special knowledge of the working class interests.

It is affirmed that the aim in constituting the Commission has been not to create a balance of partisans but a highly competent and neutral body. Certain it is at all events that the railway interests of this country are wholly unrepresented on the Commission. It will be noted that the scope of the inquiry is very wide, so that the Commissioners may roam over such fields as railway nationalisation, State control, working and pooling agreements, rates and fares, and the relations between railway companies and traders and the public.

### ASSIZE CHARGE FROM THE MIDLAND COLLISION.

#### THE CHARGE AGAINST MR. CAUDLE.

The charge of manslaughter against Samuel Caudle, of Carlisle, the driver of the train which ran into the standing train at Aisgill on September 2, was investigated on Monday and Tuesday at the Cumberland Assizes at Carlisle, before Mr. Justice Agnew. Caudle had been committed on the charge, as reported in respect of the death of Sir Arthur Percy, by the coroner at the inquest.

Arthur Henry Fox, Chief Traffic Inspector of the Midland Railway, gave evidence as to the rules drawn up in 1904 for the control of locomotive men. Rule 6 said: "The driver of a passenger train must under all circumstances be the chief care of the servants of the company"; and Rule 36 said:

"If the engine-driver finds the distant signal at danger he must reduce speed to the home signal, and be prepared to stop if necessary before reaching the starter."

George Sutherland, signalman at the Mallerstang signal-box, gave evidence that when he received word from Kirkby Stephen of the approach of the second train, his distant signal was at "danger." After the train was between the two bridges, between the distant and home signal, he temporarily lowered the home signal, but immediately he saw the sparks issuing from the engine, he knew it was in steam and travelling, and he at once placed the signal at "danger," and gave word to Aisgill, "train running away on right line."

Mr. Tobin (for the accused): You are not to put the home signal at "all right" until he comes to a standstill, or nearly a standstill?—Yes.

In your discretion you broke the rule?—I cannot agree to that.

You put the home signal at "danger," but it was a little bit too late to be of any good to the engine-driver?—No, sir.

Mr. Tobin pointed out that Caudle had in his evidence on each occasion said he looked up and thought he saw the distant signal at "all right," and witness admitted that was so.

The Judge: When the collision actually occurred, your distant signal and starting signal were both at "danger"?—Witness: Yes; they were not altered.

William Nicholson, the driver of the first train, and James Metcalfe, his fireman, gave evidence of the circumstances under which their train came to a standstill owing to insufficient steam pressure. In cross-examination they said the coal was very bad.

George Follows, fireman of the second express, admitted that he did not notice any of the three Mallerstang signals; he was busy with his fire at the time.

By Mr. Tobin: The coal was very bad, and although he was continually shovelling in small quantities it would not generate a proper head of steam.

John Jefferson, inspector at Carlisle, said Nicholson asked for his load half a minute before he started from Carlisle. Witness gave it as 243 tons. Nicholson then asked for a pilot engine, but witness said "There is none here for you." He had no authority either for giving or withholding a pilot from him.

Who has authority?—The locomotive department.

Is it common to ask for a pilot engine half a minute before the train starts?—No.

You say that 230 tons was the load for that particular time. Supposing the load is increased by 13 tons, what is the effect upon the time?—He could have claimed another six minutes for the 13 tons.

You mean he could have done the journey, but it would have taken him six minutes more?—Yes.

The Judge: In other words, no fault would have been found if he had been six minutes late?

Witness: That is so. The locomotive department would have accepted responsibility.

By Mr. Tobin: There was no engine that could be got there within twenty minutes. If he had asked a second time the witness would have asked the loco. department what was to be done.

The Judge: This is quite beside the issue. If the first train had not stopped there would have been no accident, but that is not the question we are trying here. We are determining whether the driver of the second train is guilty of negligence in not observing the signals. The signals were against him in consequence of the first train having stopped, and of course there was a reason for the stoppage.

Caudle then gave evidence on his own behalf. He said that when on the front of the engine, he looked at the Mallerstang distant signal and took it to be showing a green light. Upon getting back to the footplate he was confronted with a scarcity of water in the boiler, and realising the danger of this he was busily engaged in remedying matters when he passed the signals. He did not see the home and starting signals at Mallerstang, and he admitted that the starter was a vital signal for the protection of the block ahead. He had got perhaps 50 yards beyond the starter when he realised that he had passed it without seeing it. He was satisfied that the distant signal showed a green light.

Mr. Tobin, in his speech for the defence, contended that Caudle, in doing what he thought best for his engine and forgetting to do something which was more important, was

...the judge, in directing the jury, said the question they had to solve was, did the accused man so grossly neglect his duty as to make him liable in their opinion to conviction on the indictment?

After twenty minutes deliberation the jury returned the following verdict: "We find the prisoner guilty, with a strong recommendation to mercy on account of the onerous duties and the difficulties he was labouring under on that occasion."

Mr. Justice Ivory, on Wednesday, passed sentence of two months' imprisonment in the second division, saying the excuse about coal did not avail, for the reason that the driver of the first express, who had greater trouble with his engine, observed and obeyed the signals.

Although the sentence has created much feeling among members of the National Union of Railwaymen, it is stated that the Society has decided not to lodge an appeal. Petitions, however, are being signed asking for the release of Caudle.

### NEW RAILWAY COAL STAITHS ON THE TYNE.

The new staiths which the North Eastern Railway Company are erecting at West Dunston, on the south bank of the Tyne will considerably develop trade on that river. Owing to the scarcity of labour the undertaking is not expected to be completed until the summer of next year. There will be three places for the shipment of coal along a distance of 600 yards, and they will accommodate the largest class of vessel at any tide. At low tide there is 25 feet of water. A vessel standing very high out of the water can be as easily coaled by means of the conveyor spout as a lower lying vessel can with the gravity spouts. It is also probable that, after the completion of the work, the company will form, as was done at Dunston proper, a tidal basin 30 feet deep, on the side of the staiths opposite to the river, and provide another set of three shipping places. The six spouts will be able to discharge 600 tons of coal each per hour, so that a large ship can bunker or coal in a very short time. Between 8 and 10 miles of permanent way have had to be constructed in connection with the work, and the lines to the staiths are from Derwenthaugh on the west and Whickham Junction on the east. A large number of reception sidings have also been made for the convenience of from 8 to 10 train-loads of coal. The contract for the staiths is being carried out by Messrs. Mitchell Bros., Glasgow.

### NATIONAL CONFERENCE OF FREE WORKERS.

The first annual meeting of the National Society of Free Workers, Limited, was held on October 17 and 18 at Birmingham, when the President, Mr. Mark Judge, occupied the chair. On Friday there was a reception, followed by a meeting, Sir Henry Fairfax-Lucy, Bart., in the chair, when addresses were given in support of personal liberty and personal responsibility, with special reference to "the amazing report of the Industrial Council of the Board of Trade after hearing evidence from '92 witnesses representing the employers and workpeople in the majority of the principal industries of the country." In this report, dated July 24, 1913, the Council recommended the following:—

The Society passed a resolution strongly condemning the extension of agreements to persons who disapprove of them.

At the meeting on Saturday it was resolved to petition Parliament to make modifications of the Trade Disputes Act as regards the powers given to pickets, to limit the number of pickets, and to give the police powers to arrest any person charged with a breach of the amended provisions.

Mr. J. Minshull, chairman of the Sheffield Branch, was elected President for the year. Mr. Rallings, secretary of the Sheffield Branch, was elected general secretary for the year. It was agreed to change the office of the Society

to 60, Abchurch Lane, London, E.C. 4.

The secretaries of the railway branches of the Society are as appended:—Bedford, J. Spencer, 20, Adelaide Square; Birmingham, H. R. Needham, 2, Leam Cottages, Salford; Buxton, J. T. Wardle, 51, Windsor Road, Fairfield; Carlisle, W. J. Markham, 24, Pettrill Terrace, Hanley; Helliwell, J. M. Brunskill, 3, Western Terrace, Long Preston, R.S.O.; Lancaster, J. Littleproud, 73, Lune Street; Leicester, W. Thurley, 251, Humberston Road; Manchester, J. H. Colelough, 34, Thomas Street, Stretford; Newcastle-on-Tyne, W. H. Gilbey, 21, Belle Vue Bank, Low Fell, Gateshead; Nottingham, J. Dewsbury, 98, Port Arthur Road, Sneinton Dale; Sheffield, J. W. Rallings, 456, Shoreham Street; Southport, T. Sawyer, 68, Hart Street; Stratford, G. Lankester, Chapel Road, Epping; Widnes, J. H. Knowles, 95, Warrington Road.

### THE RAILWAY ACCOUNTS ACT.

Mr. E. Winnill gave a lecture on the Railway Accounts Act, which came into force in January last, at a meeting of the Central Association of Accountants in London on October 16. He mentioned that under the new Act railway companies need only hold a shareholders' meeting once a year. An estimate was given that it would cost the railway companies £35,000 a year if the ton-mile statistics were insisted upon. Among the requirements of the Act was that greater details must be given as to receipts and payments on capital account—not only as to the future, but the past, and the profits made at railway hotels and refreshment rooms would have to be shown. These should prove interesting, as some people thought they made a good deal. Running expenses on joint lines were to be shown under distinct headings, and further

given under few and inclusive headings, they were to be given under many headings. This also applied to goods, to omnibuses and other vehicles, and to steamboats. Railways owning canals would have to make separate returns under a large number of headings, and the same applied to companies having wharves, docks, and harbours. Where companies had a separate power-house for the supply of electric light and power the costs of producing the light and power would have to be given under 17 separate headings. One effect of the onerous character of the Act would be that the meetings of some companies might be delayed, and, consequently, the payment of the final dividend might also be delayed. Still, a large amount of information would be given which would be of great value. The Act would largely increase the work of railway auditors, who were required to certify as to the details of these statistics, which would mean a continuous audit.

### TURKISH RAILWAY CONCESSIONS.

In return for the consent of the French Government to the imposition of certain Customs duties, to the suppression of the foreign post offices, and to the creation of monopolies in respect of matches, cards, alcohol, and cigarette papers, the Turkish Government has concluded an agreement with France for the construction of a number of railway lines. The foregoing matters also form the basis of the negotiations proceeding with the Russian and British Governments, and shortly to be undertaken with the German Government. The principal Russian counter-demands consist of a demand for a junction of the railways conceded to French contractors with the Russian system, and the admission of a Russian delegate to the Council of the Public Debt.

France obtains concessions for railways between Sam-sun, Van (at Erghene the French lines will meet the German line between Diarbekr and Erghene); from Trebizond to Pkantz; for a line connecting Sivas, Erzghian, and Pkantz; and for a line from Haifa, on the Samsun-Sivas Railway to Kastambul. The contracts have been completed and the lines are to be completed within ten years. Finally, a concession is granted for a railway in Syria from Rayak to Ramleh, situate midway between Jaffa and Jerusalem. It is hoped the British Government will eventually consent to a junction with the Egyptian railway system.



## RAILWAY DEVELOPMENT IN CHINA.

THE CHINESE RAILWAY BOARD'S CONCESSIONS.

Mr. Philip Burt, passenger manager of the North-Eastern Railway, who four years ago made a tour in China, inaugurated the winter series of lectures at the York Railway Institute by a lantern lecture on "Railway Development in China." Many of the views were reproduced from photographs taken by the lecturer, who in his opening observations pleaded for a friendly and sympathetic attitude in this country towards the Chinese Republic, because he was certain that China would be more ready to trade with friendly nations than with those who looked askance and talked of the "yellow peril." He expressed the view that the "yellow peril" was really non-existent, and paid a tribute to the statesman-like qualities of the new President of the Chinese Republic. Mr. Burt asked his audience to endeavour to realise the spectacle of a people numbering 400,000,000 waking up from a condition of comparative darkness and inertia for thousands of years.

It was only in 1870 that the first railway—from Shanghai to Woosung—ten miles in length—was constructed by an Englishman under the greatest difficulties. Before long it was torn up by an infuriated populace as an evil thing. It was fourteen or fifteen years afterwards that railway construction was once more attempted, and Mr. Burt estimates that there is now an aggregate mileage of 2,500 miles in the Celestial Empire, or less than twice as much as the mileage of the North Eastern system. Concessions had been granted to British, German, French, and Russian syndicates to construct railways, but the whole of the existing railways were now under the control of the Government, and the intention was to make all future railways State railways. Adverting to Sun Yat Sen's great scheme for construction of 200,000 li of railway in the next ten years, Mr. Burt remarked that Sun Yat Sen was an optimist who had the utmost faith in the future of China, but who, after voluntarily offering to play second fiddle to the President, had temporarily come under a cloud and been deprived of his office as administrator of the railways. The recent revolution was largely due to the resentment against foreign projects for railways, the Chinese being determined to build their own railways with their own money.

## MODEL ROADS TO PERFECT RAILWAYS.

Sun Yat Sen's great schemes for the organisation of a great railway system fairly represented the ambitions of Young China. The opening of the Tientsin-Pukow line had been a great object lesson; and wealth in the shape of improved produce from the land had poured down the railways to the river at Pukow in quite unexpected quantities—soya beans, millet, vegetables and agricultural produce of all sorts, as well as minerals. So all over China. This wealth would seek foreign markets, and the markets of China would be opened up in return to the nations of the West. China would soon be one of the greatest of the markets of the world for foreign goods. Let but the present troubles in China settle down, and serious though for the time being they were, they would soon settle down, and the demand for foreign goods would be great.

As an instance, the Governor of Szechuen had recently sent to London to ascertain the cost of road motors. His idea was that if he built and levelled roadways now he could soon turn them into railways when he could get money to make them with. China recognised that the making of railways was a great factor in her future development, and she meant to keep the railways in Government hands instead of letting them be developed by private enterprise and independent action. As a result she was, of not hasty alone could show, but she was already buying back foreign concessions and had purchased the railways under the Government control. Apart from Sun Yat Sen the Chinese Government was not alone. They had had a concession appointed to construct railways, and to build them, and then overcame it. View of getting the railways in Government hands, the Chinese Government had been a great success, and it was to be seen, with a view to getting the best possible system of accounts for China now that her railways were all coming under State control.

## ARGENTINE RAILWAY PROJECTS.

Favourable reports have been presented on the following Railway Bills by the Public Works Committee of the Chamber of Deputies, Buenos Ayres:—

A concession to Filadelfio Villamayor to build and work a line starting from the port of Santa Fé crossing in ferry-boat to the city of Parana, then to the cities of Diamante and Victoria, from the latter place going again by ferry-boat to the city of Rosario.

To Daniel Fernández to build and work a railway of one metre gauge, from Reconquista in the Province of Santa Fé to Uruguaynaa in Brazil, passing through Goya, Curuzú Cuatia and Paso de los Libres, with a branch from the main line passing through the colony Paragorria and Mercedes.

To T. T. Conde and Co., for a line from the port of Gualeguaychú to Corrientes and Paso de la Patria, and to canalise the Gualeguaychu river so as to convert it into a port for ocean-going vessels.

The Public Works Committee have commenced consideration of the Government Bill for the sale of the State line from Diamante to Curuzú Cuatia, to the Entre Rios Railway Company.

## REPORT ON A COLLISION AT ACCRINGTON.

## ADVANTAGE OF TRAIN CONTROL IN CASE OF SUDDEN OBSTRUCTION.

Lt.-Col. E. Druitt, of the Board of Trade, has reported to the Board the result of his inquiry into the causes of the collision which occurred on July 17 between two goods trains at Accrington on the Lancashire and Yorkshire Railway. The 10.20 p.m. down goods train from Rochdale to Fleetwood got out of control after passing Baxenden, and leaving the rails at the south end of Accrington Station collided with the 6.10 p.m. goods train from Chorley to Moston, which was standing at the up fork line intermediate home signal. The drivers of both trains were badly injured, and the guard of the 10.20 p.m. train was badly shaken. Both engines were damaged, also 14 wagons were broken up, and 10 damaged. Col. Druitt says:—"The runaway and subsequent collision were thus, I consider, due to driver Simpson allowing his train to run past the stop board before he tried to bring it to a stand, and then no attempt was made to pin down any wagon brakes until the whole train was on a very steep gradient. The position of this board has been fixed by the company after experiment, and it is running risks to take a heavy train past this point, especially when the rails are greasy, as they were on the night in question owing to a drizzling rain having commenced to fall. When the whole train is brought on to the steep gradient, exceeding 1 in 76, there is danger of the engine being overpowered, as it was on this occasion. In view of a very long and steep gradient beyond the notice board and the sharp curves at Accrington Station, I think it would be a great addition to safety generally if a bankman were stationed at the notice board to assist in pinning down the brakes during the hours of the night when most of the goods trains run, as, should a driver have trouble in stopping, a runaway might be averted by the brakes being put down at once. It is a difficult job for a fireman unaccustomed to such work to use a brake stick and pin down brakes on a dark night; and as it is dangerous to use the brake stick in the six-foot way if a train is passing on the other line, it is well to have a slightly raised pathway on the other side for the brakeman to move along when at work. The total tonnage of the train was 412 tons, which was well below the maximum load, but the mishap shows the importance of the rule being carried out, viz.: for the guard to inform the driver of the tonnage of their train on leaving a starting point on any station or siding where the load has been altered.

"This accident illustrated the advantage of a system of train control in case of an accident where the line is suddenly obstructed at any point, as trains can be quickly diverted or broken up, instead of having to stand idly behind one another until the line is cleared. At Accrington all lines were blocked, both those through the station in the direction of Burnley and also the fork lines leading towards Blackburn. The accident occurred at about 2.8 a.m., and at 2.15 a.m. the Controllers at Manchester were in receipt of full information and took

passenger trains between Ramsbottom and Accrington Bay siding, the controllers demanding the engine and carriages for the purpose. Telegrams were sent to the principal stations advising them of delay to trains and to inform passengers, but owing to the diversion of the trains the delay to the passenger service was not serious, down trains arriving at Accrington at 10.15 and 11.15.

### EASTERN CANADIAN RAILWAY DEVELOPMENTS.

COASTAL PASSENGER SERVICE WITH THE INTER-COLONIAL RAILWAY.

Mr. G. M. Bosworth, vice-president of the Canadian Pacific Railway, with special charge of the steamship business, has confirmed the report that the Empresses and the new Allan liners *Albatian* and *Calgarian* will make Halifax their terminal port during the coming winter. The reason for the sudden change of plans after the counter announcement had been made was, he said, that the Canadian Pacific Railway was able to complete arrangements for passengers and freight service over the Inter-colonial from St. John to Halifax. The remainder of the Canadian Pacific Railway Atlantic fleet will continue to sail to and from St. John direct, as usual.

In addition to the regular heavy winter traffic over the Halifax and St. John division which annually taxes the present resources of the division to its utmost capacity, the new arrangement will mean at least thirty-five to forty additional special trains in and out of Halifax per week, all of which must be handled over the single track between Halifax and Moncton to St. John. It is locally suggested that the Inter-Colonial will draw on the Canadian Pacific for a portion at least of the additional trains and train crews.

Sir Thomas Shaughnessy, president of the Canadian Pacific Railway, is reported by a Montreal correspondent to have stated that the choice of Halifax as the winter port of call for the Empress liners is a temporary measure, pending the completion of the St. John Harbour improvement.

#### HALIFAX TERMINAL RAILWAY.

In the work of excavating for the construction of the Halifax Terminal Railway five steam shovels are engaged. Each dipper can take  $5\frac{1}{2}$  yards at each mouthful from the ground, but it averages about four. The chain that lifts the dipper has a tensile strength of 77,000 pounds, and the shovel itself weighs 110 tons. The air dump cars on the track alongside are the first of the kind ever seen in Nova Scotia and the biggest in Canada. They are sixteen-yard cars, so that four lifts from the shovel will fill a car. The dump trains consist of six cars and a locomotive and when filled they run down to the edge of the basin where a touch of the lever on the locomotive empties them all simultaneously. It is done by air, the engineer emptying the cars just as he applies the air brakes.

#### GRAND TRUNK TRANSCONTINENTAL LINE.

A despatch from Victoria (British Columbia) on October 14 announced that one hundred miles of new railway had been put into operation in British Columbia, thus opening another section of the Grand Trunk Pacific Transcontinental line from Moricetown to Mile 301.

### RAILWAY ELECTRIFICATION.

#### SCHEME FOR THE FIRST SECTION OF AUSTRALIA'S TRANSCONTINENTAL LINE.

Experts in London have recommended the Western Australian Government to adopt electric working for the Fremantle and Kalgoorlie section of the Trans-Continental Railway, at an estimated cost of 200,000 to 250,000. The current would be obtained from the new power station which the Government is erecting in connection with the Metropolitan tramways and lighting. The experts' report was called for in consequence of the efforts which had been made to secure a route which will give a better grade than the existing line, but it has been found that this can only be

The Prime Minister (the Hon. J. Scaddan) seems to be satisfied that the advantages of electric traction call for careful con-

sideration and America Mr. Scaddan under the guidance of Mr. Moir

is better than steam for railway as well as tramway traction. One point that arrested his attention was the diminution of risk as well as cost. In Italy he saw electric engines of four or down 1 in 33, so long as the lever was on the 15-mile limit, the train would not exceed that pace, whilst if the lever was set for 60 miles that speed would be attained.

Reuter's Sydney correspondent reports that the New South Wales Legislative Council has rejected the Bill, already passed by the House of Assembly, authorising the construction of an underground railway and tramways in Sydney, at an estimated cost of £1,800,000.

In an article in a recent issue of the *Electrician*, Mr. F. A. Talbot refers to the adoption of electric locomotives for working the trains through the Hoosac Tunnel, on the Boston and Maine railway. The tunnel, which is 25,081 ft. in length, is the longest in the United States. The grade in this instance is not heavy, averaging only 20.4 ft. per mile, which was required to ensure efficient drainage. The electric locomotives of the Baldwin-Westinghouse type are of great power. They are of the 0-12-0 class, comprising two 6-wheeled motor trucks coupled together and having a total weight of 130 tons. On the level they are capable of hauling eighty cars, each weighing, with load, 15 tons, representing an aggregate of 3,000 tons, at 35½ miles per hour. While designed essentially for freight business, in which duty they are called upon to haul trains weighing 1,000 tons, and the transit of which through the tunnel occupies from 15 to 20 minutes, they handle all other traffic, making from 10 to 70 trips through the tunnel during the day. In the handling of the passenger trains the steam locomotive is not detached at one end of the tunnel and another one coupled up at the opposite portal, but the whole train, including the steam-engine, is hauled through, the steam locomotive running dead, so as not to foul the tunnel the latter being traversed under these conditions with a load

### PERSONAL.

Mr. C. H. Pearson,  
Messrs. R. I. Insell, C. Jacobs, and R. H. Nichols  
Mr. Gray Catthrop.

Western Railway next year.

Mr. W. Schumacher.

Mr. E. A. Neale, general manager, Great Southern and  
Irish Railway Managers' Conference for the year 1914 at 4

Mr. de Courcy.

Mr. Samuel Moody, passenger traffic manager, Pennsylvania

**MIDLAND WORKS, BIRMINGHAM,**  
and Abbey Works, Shrewsbury.



# RAILWAY STOCK AND SHARE LIST.

## HOME RAILWAY ORDINARY STOCKS.

NAME	CLOSING PRICES.	NAME	CLOSING PRICES.
Barry, Ord.	109 1/4	London, Chat. & Dover, Arbt. Ord.	114 1/4
Do. Pref. Conv. Ord. 4%	81	London and North Western, Cons.	114 1/4
Caledonian, Ord.	71 1/4	Do. 4% Pref. Conv. Ord.	114 1/4
Do. Pref. Conv. Ord. 4%	54 1/4	Do. Pref. Ord.	114 1/4
Do. Pref. Conv. Ord.	18 1/4	Mersey, Cons. Ord.	3 1/4
Canterbury, Ord.	112 1/4	Metropolitan, Cons.	3 1/4
Do. Cons. Ord.	71 1/4	Metropolitan District, Pref.	3 1/4
Cardiff, Pref. Ord. 1888-90	61 1/4	Midland, Pref. Conv. Ord. (2 1/2%)	3 1/4
Central London, Ord.	61 1/4	Do. Pref. Conv. Ord.	3 1/4
Do. Pref. 4%	70 1/4	North British, Ord. Pref. (3%)	3 1/4
Do. Pref.	60 1/4	Do. Pref. Ord.	3 1/4
City and South London, Cons. Ord.	60 1/4	N. Cornwall (L.L.M.) 1 1/2, Pref. Ord.	3 1/4
Furness, Cons. Ord.	57 1/4	Do. Pref. Ord.	3 1/4
Glasgow and S. Western Pref. Ord.	55 1/4	North Eastern, Cons.	3 1/4
Do. Pref. Ord.	31 1/4	North London, Cons.	3 1/4
Great Central, Pref. Ord. 1888-90	29 1/4	North Staffordshire, Cons. Ord.	3 1/4
Do. Pref. Ord.	15 1/4	Plymouth Devon & S.W. Jun., Or.	3 1/4
Great Eastern, Ord.	37 1/4	Port Talbot Railway and Docks	3 1/4
Great N. of Scotland, Pt. Conv. Or.	55 1/4	Rhonda and Swansea Bay	3 1/4
Do. Pref. Conv. Ord.	17 1/4	Rymer, Cons. Ord. Cap. Stock	3 1/4
Great Northern, Pref. Conv. Ord.	80 1/4	Do. Pref. Ord. (4%)	3 1/4
Do. Pref. Conv. Ord.	50 1/4	Do. Pref. Ord.	3 1/4
Lea, Cons. A.	121 1/4	Sheffield District, 4 1/2, Cons.	3 1/4
Do. Cons. B.	121 1/4	South Eastern, Ord.	3 1/4
Great Western, Cons. Ord.	112 1/4	Do. Pref. Ord.	3 1/4
Highland, Ord. Cons. Capital	70 1/4	Do. Pref. Ord.	3 1/4
Hull and Barnsley, Cons.	54 1/4	Stratford & Mid. Jung. Cons. Ord.	3 1/4
Isle of Wight, Pt. Conv. Ord. 4%	70 1/4	Taff Vale, Ord.	3 1/4
Do. Pref. Conv. Ord.	36 1/4	Vale of Glamorgan, Ord.	3 1/4
Lanc. and Yorks. Cons. Ord.	85 1/4		
Lea, Brighton & S. Coast, Ord.	120 1/4		
Do. Pref. 4%	120 1/4		
Do. Pref.	88 1/4		
Do. Cert. Con. Rights above 6%	8 1/4		

### Debenture Stocks.

### Debenture Stocks (continued).

### Preference Stocks—

(continued).

Alexandra Docks and Railway.....	4%	91	95	North Eastern .....	4	75 1/4	76 1/4	(continued).		
Barry .....	3	72 1/4	74	North London .....	4 1/2	109 1/4	111			
Boscon and Mortimer A .....	4	85	89	North Staffordshire .....	3	75 1/4	75	Great Western, Cons. Pref., 5% .....	121	125
Do. Do. B .....	4	79 1/4	81	Plymouth Devon & S.W. Junction .....	4	94	96	Highland Class A 4 1/2% .....	100	102
Caledonian .....	4	101 1/4	105	Port Talbot Railway and Docks .....	4	96 1/4	98	Do. B 5% .....	103	111
Canterbury .....	4	87 1/4	89	Rhonda and Swansea Bay .....	4	96 1/4	98	Do. 3 1/2% Pref. Stock 1897 .....	82	84
Do. Do. C .....	4	78 1/4	80	Rymer Pref. Ord. .....	4	96 1/4	98	Do. 3 1/2% Pref. Stock 1897 .....	71	75
Do. Do. D .....	4	71 1/4	73	Sheffield District Permanent .....	4	90 1/4	92	Hull and Barnsley 3 1/2% Pref. 1899 .....	80	82
Do. Do. E .....	4	45 1/4	49	South Eastern Perpetual .....	4	122 1/4	124	Isle of Wight Cons. 5 1/2% Pref. .....	72 1/4	74
Cardiff .....	3	90 1/4	92	Do. .....	4	85	87	Lancashire and Yorks. Cons. 3 1/2% Pref. .....	71 1/4	73
Central London .....	4	61 1/4	63	Taff Vale .....	3	72 1/4	74	Lea & W. Cons. A. 4 1/2% Pref. .....	95 1/4	97
City and South London (Perpetual)	4	95 1/4	96	Tottenham and Forest Gate .....	4	95 1/4	97	London & North Western Cons. 4% Pref. .....	59	60
Do. and W. Cons. A. .....	4	91 1/4	93	Wentworth and B. Cons. .....	4	90 1/4	92	Lon. & South Western Cons. 4% Pref. .....	97	99
East London and C. Cons. A. ....	4	91 1/4	93					Do. 4 1/2% Pref. 1894 .....	84	86
Do. 2nd Class B. ....	4	13 1/4	15					Mersey 3% Perp. Pref. ....	15	17
Do. 3rd Class .....	4	13 1/4	15					Metropolitan 3 1/2% Pref. ....	78	80
Do. 4th Class .....	4	13 1/4	15					Do. 3 1/2% A Pref. ....	78	80
Do. E.L.R. 1st Debentures .....	80	78 1/4	80					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. W. Cons. Extension .....	25	57 1/4	59					Do. 4 1/2% Pref. ....	74 1/4	76
Forth Bridge .....	4	97 1/4	99					Midland 2 1/2% Perp. Pref. ....	61	63
Furness .....	3	71 1/4	73					North and Brecon 4% Pref. ....	71	73
Glasgow and S. Western .....	4	121 1/4	123					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
Great Central .....	6	121 1/4	123					Do. Pref. A. ....	116 1/4	118
Do. ....	6	111 1/4	113					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
Do. ....	4	82 1/4	84					Do. 4 1/2% Pref. 1894 .....	84	86
Great Eastern .....	4	80 1/4	82					Mersey 3% Perp. Pref. ....	15	17
Great N. of Scotland .....	4	98 1/4	100					Metropolitan 3 1/2% Pref. ....	78	80
Great Northern .....	4	78 1/4	80					Do. 3 1/2% A Pref. ....	78	80
Great Northern (Ireland) .....	4	97 1/4	99					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Great Western .....	4	101 1/4	103					Do. 4 1/2% Pref. ....	74 1/4	76
Do. ....	4	105 1/4	107					Midland 2 1/2% Perp. Pref. ....	61	63
Do. ....	4	113 1/4	115					North and Brecon 4% Pref. ....	71	73
Do. ....	6	125 1/4	127					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
Do. ....	4	115 1/4	117					Do. Pref. A. ....	116 1/4	118
Do. ....	4	125 1/4	127					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
Highland .....	4	101 1/4	103					Do. 4 1/2% Pref. 1894 .....	84	86
Hull and Barnsley 1st .....	4	95 1/4	97					Mersey 3% Perp. Pref. ....	15	17
Do. 2nd .....	4	91 1/4	93					Metropolitan 3 1/2% Pref. ....	78	80
Isle of Wight .....	4	57 1/4	59					Do. 3 1/2% A Pref. ....	78	80
Lea & W. Cons. A. ....	4	95 1/4	97					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. Do. B. ....	4	81 1/4	83					Do. 4 1/2% Pref. ....	74 1/4	76
Do. Do. C. ....	4	11 1/4	13					Midland 2 1/2% Perp. Pref. ....	61	63
Lea & W. Cons. B. ....	4	81 1/4	83					North and Brecon 4% Pref. ....	71	73
London and Greenwich .....	4	97 1/4	99					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
London and W. Cons. A. ....	4	100 1/4	102					Do. Pref. A. ....	116 1/4	118
London and W. Cons. B. ....	4	112 1/4	114					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
London Chat. and Dover Arb. ....	4	107 1/4	109					Do. 4 1/2% Pref. 1894 .....	84	86
Do. Do. B. ....	4	15 1/4	17					Mersey 3% Perp. Pref. ....	15	17
Do. Do. C. ....	4	31 1/4	33					Metropolitan 3 1/2% Pref. ....	78	80
Do. Do. D. ....	4	61 1/4	63					Do. 3 1/2% A Pref. ....	78	80
Do. Do. E. ....	4	91 1/4	93					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. Do. F. ....	4	121 1/4	123					Do. 4 1/2% Pref. ....	74 1/4	76
Do. Do. G. ....	4	151 1/4	153					Midland 2 1/2% Perp. Pref. ....	61	63
Do. Do. H. ....	4	181 1/4	183					North and Brecon 4% Pref. ....	71	73
Do. Do. I. ....	4	211 1/4	213					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
Do. Do. J. ....	4	241 1/4	243					Do. Pref. A. ....	116 1/4	118
Do. Do. K. ....	4	271 1/4	273					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
Do. Do. L. ....	4	301 1/4	303					Do. 4 1/2% Pref. 1894 .....	84	86
Do. Do. M. ....	4	331 1/4	333					Mersey 3% Perp. Pref. ....	15	17
Do. Do. N. ....	4	361 1/4	363					Metropolitan 3 1/2% Pref. ....	78	80
Do. Do. O. ....	4	391 1/4	393					Do. 3 1/2% A Pref. ....	78	80
Do. Do. P. ....	4	421 1/4	423					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. Do. Q. ....	4	451 1/4	453					Do. 4 1/2% Pref. ....	74 1/4	76
Do. Do. R. ....	4	481 1/4	483					Midland 2 1/2% Perp. Pref. ....	61	63
Do. Do. S. ....	4	511 1/4	513					North and Brecon 4% Pref. ....	71	73
Do. Do. T. ....	4	541 1/4	543					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
Do. Do. U. ....	4	571 1/4	573					Do. Pref. A. ....	116 1/4	118
Do. Do. V. ....	4	601 1/4	603					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
Do. Do. W. ....	4	631 1/4	633					Do. 4 1/2% Pref. 1894 .....	84	86
Do. Do. X. ....	4	661 1/4	663					Mersey 3% Perp. Pref. ....	15	17
Do. Do. Y. ....	4	691 1/4	693					Metropolitan 3 1/2% Pref. ....	78	80
Do. Do. Z. ....	4	721 1/4	723					Do. 3 1/2% A Pref. ....	78	80
Do. Do. AA. ....	4	751 1/4	753					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. Do. AB. ....	4	781 1/4	783					Do. 4 1/2% Pref. ....	74 1/4	76
Do. Do. AC. ....	4	811 1/4	813					Midland 2 1/2% Perp. Pref. ....	61	63
Do. Do. AD. ....	4	841 1/4	843					North and Brecon 4% Pref. ....	71	73
Do. Do. AE. ....	4	871 1/4	873					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
Do. Do. AF. ....	4	901 1/4	903					Do. Pref. A. ....	116 1/4	118
Do. Do. AG. ....	4	931 1/4	933					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
Do. Do. AH. ....	4	961 1/4	963					Do. 4 1/2% Pref. 1894 .....	84	86
Do. Do. AI. ....	4	991 1/4	993					Mersey 3% Perp. Pref. ....	15	17
Do. Do. AJ. ....	4	1021 1/4	1023					Metropolitan 3 1/2% Pref. ....	78	80
Do. Do. AK. ....	4	1051 1/4	1053					Do. 3 1/2% A Pref. ....	78	80
Do. Do. AL. ....	4	1081 1/4	1083					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. Do. AM. ....	4	1111 1/4	1113					Do. 4 1/2% Pref. ....	74 1/4	76
Do. Do. AN. ....	4	1141 1/4	1143					Midland 2 1/2% Perp. Pref. ....	61	63
Do. Do. AO. ....	4	1171 1/4	1173					North and Brecon 4% Pref. ....	71	73
Do. Do. AP. ....	4	1201 1/4	1203					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
Do. Do. AQ. ....	4	1231 1/4	1233					Do. Pref. A. ....	116 1/4	118
Do. Do. AR. ....	4	1261 1/4	1263					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
Do. Do. AS. ....	4	1291 1/4	1293					Do. 4 1/2% Pref. 1894 .....	84	86
Do. Do. AT. ....	4	1321 1/4	1323					Mersey 3% Perp. Pref. ....	15	17
Do. Do. AU. ....	4	1351 1/4	1353					Metropolitan 3 1/2% Pref. ....	78	80
Do. Do. AV. ....	4	1381 1/4	1383					Do. 3 1/2% A Pref. ....	78	80
Do. Do. AW. ....	4	1411 1/4	1413					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. Do. AX. ....	4	1441 1/4	1443					Do. 4 1/2% Pref. ....	74 1/4	76
Do. Do. AY. ....	4	1471 1/4	1473					Midland 2 1/2% Perp. Pref. ....	61	63
Do. Do. AZ. ....	4	1501 1/4	1503					North and Brecon 4% Pref. ....	71	73
Do. Do. BA. ....	4	1531 1/4	1533					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
Do. Do. BB. ....	4	1561 1/4	1563					Do. Pref. A. ....	116 1/4	118
Do. Do. BC. ....	4	1591 1/4	1593					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
Do. Do. BD. ....	4	1621 1/4	1623					Do. 4 1/2% Pref. 1894 .....	84	86
Do. Do. BE. ....	4	1651 1/4	1653					Mersey 3% Perp. Pref. ....	15	17
Do. Do. BF. ....	4	1681 1/4	1683					Metropolitan 3 1/2% Pref. ....	78	80
Do. Do. BG. ....	4	1711 1/4	1713					Do. 3 1/2% A Pref. ....	78	80
Do. Do. BH. ....	4	1741 1/4	1743					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. Do. BI. ....	4	1771 1/4	1773					Do. 4 1/2% Pref. ....	74 1/4	76
Do. Do. BJ. ....	4	1801 1/4	1803					Midland 2 1/2% Perp. Pref. ....	61	63
Do. Do. BK. ....	4	1831 1/4	1833					North and Brecon 4% Pref. ....	71	73
Do. Do. BL. ....	4	1861 1/4	1863					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
Do. Do. BM. ....	4	1891 1/4	1893					Do. Pref. A. ....	116 1/4	118
Do. Do. BN. ....	4	1921 1/4	1923					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
Do. Do. BO. ....	4	1951 1/4	1953					Do. 4 1/2% Pref. 1894 .....	84	86
Do. Do. BP. ....	4	1981 1/4	1983					Mersey 3% Perp. Pref. ....	15	17
Do. Do. BQ. ....	4	2011 1/4	2013					Metropolitan 3 1/2% Pref. ....	78	80
Do. Do. BR. ....	4	2041 1/4	2043					Do. 3 1/2% A Pref. ....	78	80
Do. Do. BS. ....	4	2071 1/4	2073					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. Do. BT. ....	4	2101 1/4	2103					Do. 4 1/2% Pref. ....	74 1/4	76
Do. Do. BU. ....	4	2131 1/4	2133					Midland 2 1/2% Perp. Pref. ....	61	63
Do. Do. BV. ....	4	2161 1/4	2163					North and Brecon 4% Pref. ....	71	73
Do. Do. BW. ....	4	2191 1/4	2193					N. Cornwall (L.L.M.) 1 1/2, Pref. Ord. ....	3 1/4	3 1/4
Do. Do. BX. ....	4	2221 1/4	2223					Do. Pref. A. ....	116 1/4	118
Do. Do. BY. ....	4	2251 1/4	2253					Do. Cons. 5 1/2% Pref. 1874 .....	116 1/4	118
Do. Do. BZ. ....	4	2281 1/4	2283					Do. 4 1/2% Pref. 1894 .....	84	86
Do. Do. CA. ....	4	2311 1/4	2313					Mersey 3% Perp. Pref. ....	15	17
Do. Do. CB. ....	4	2341 1/4	2343					Metropolitan 3 1/2% Pref. ....	78	80
Do. Do. CC. ....	4	2371 1/4	2373					Do. 3 1/2% A Pref. ....	78	80
Do. Do. CD. ....	4	2401 1/4	2403					Metropolitan District 1st. Pref. 4 1/2% ..	82	84
Do. Do. CE. ....	4	2431 1/4	2433					Do. 4 1/2% Pref. ....	74 1/4	76
Do. Do. CF. ....	4	2461 1/4	2463					Midland 2 1/2% Perp. Pref. ....	61	63
Do. Do. CG. ....	4	2491 1/4	2493					North and Brecon 4% Pref. ....	71	73
Do. Do. CH. ....	4	2521 1/4	2523					N. Cornwall (L.L.M.) 1 1/		

[illegible]



## OFFICIAL TRAFFIC RETURNS.

Barry, D		
Week ending	1912	1912
Total for year	212,700	212,700
Average for 42 weeks	5,064	5,064
Miles per	5,064	5,064
Cost per mile	11.10	11.10

Caledonian.		
Week ending 19	1911	1912
Passengers	2,177	2,177
Goods	61,300	60,300
Total for week	63,477	62,477
Percentage for 42 weeks	2,177	2,177
Misses	1,114	1,114
Inc. this week, £3,100	1,42	£321,306

Cambrian.			
Week ending 10/10/18	1918	1917	
Passengers	2,200	2,000	
Cargo, etc.	1,100	1,100	
Total for week.	3,300	3,100	
Against 1st 42 weeks	139,100	127,000	
Minus spent	2,000	2,000	
Balance	137,100	125,000	

Central London.		
Week ending October 18	1913.	1912.
Total for week	2,111.1	25,345
Aggregate for 42 weeks	89,117.7	819,157.1
Mean per	50	64
For this week, 1914	for 42 weeks, 1913	

City and South London.			
Week ending Oct. 18	1918.	1917.	
Total for week	12,615	12,918	
Amount for 32 week	£116.7	£127.7	
Miles open	74	74	
Inc. this week £205			
Inc. 32 week, £11.12			

Dublin and South Eastern.			
Week ending.....	1915	1916	
Passengers, etc. ....	£3,526	£3,269	
Gross receipts .....	1,144	1,838	
Total for week.....	£5,170	£5,117	
Annual for 42 weeks ..	224,761	278,147	
Miles run .....	160	160	

Furnace.		
Week ending Dec. 14	1914	1915
Passes down the	26	27 3/4
cracks, etc.	2.9	1.8 1/2
Total for week	111 1/2	112 1/2
Aggregate for 42 weeks .....	£462.408	\$404.622
Miles per	159	159
Dec. this week, £282	Inc. 42 weeks, 257,786	

Glasgow and South Western.		
Week ending .....	18	1913
Passengers, etc. ....	£14,500	£14,200
Gross, etc. ....	715	720
Total for week.....	£36,000	£35,400
Aggregate for 42 weeks .....	1,610,300	1,497,900
Misses .....	4,111	4,740

Groat Central.		
Week ending Oct.ber 18	1913.	a 1912.
Passengers, etc. ....	\$22,100	\$21,500
Goods, etc. ....	72,100	71,200
G.C. proportion of Joint Lines	\$19,100	\$18,500
Aggregate for 42 weeks ...	4,837,900	4,247,200

Great Eastern.		
	1914	1913
Week ending .....		
Passengers, etc .....	£62,000	£60,300
Freight, &c .....		
Total for week .....		
Aggregate for 42 weeks .....		
Mean .....		
Due this week £300 .....	inc 42 weeks	£71,800

Great Northern.		
Week ending	October 18	1913.      a 1912.
Passengers, etc.	£48,800	£48,700
Goods, etc.	83,800	85,900
Total for week	£132,600	£133,600
Aggregate for 42 weeks	5,366,400	5,051,700
Min. span	1. 2 2	1. 3 1
Inc. this week. £2,000	Inc. 42 weeks. £31,700	

NOTES AND EXPLANATIONS.—The number of  
Rains, 6; D.R. 200; 112; 100; 100; 100;  
Junc. 7; 10; 10; 10; 10; 10; 10; 10; 10; 10;  
E. Rains 20; 10; 10; 10; 10; 10; 10; 10; 10; 10;  
with G.C.R. 10; 10; 10; 10; 10; 10; 10; 10; 10; 10;

Week ending (month)	1971	1972
Production, tons	40,000	40,000
Cost, £	1,000,000	1,000,000
Price, £ per ton	25	25
Subsidy, £ per ton	10	10
Market price	15	15
Cost of production	10	10

Great North of Scotland.		
Week ending October 18	1913.	1912.
Passengers	2,240	2,140
Freight	4,690	3,370
14s. for A. & K.	100	100
Admission for 420	1,120	1,120
Miscellaneous	250	250
Total (A. & K. 200)	8,300	7,980

Great Southern and Western.		
Week ending October 17	1913.	1912.
Passengers, etc.	\$16,238	\$13,857
Freight	1,357	1,357
Total for week	\$17,595	\$15,214
Aggregate for 42 wks.	1,246,931	1,246,931
Miles open	1,130	1,130

Great Western.		
Week ending October 19	1913.	1912.
Passenger fares, etc.	£125,000	£122,000
Goods, etc.	155,700	160,000
Total for week	280,700	282,000
Aggregate for 42 weeks	12,248,000	11,374,000
Mineral tonnage	2,000	2,000

Highland.		
Week ending	1915.	1916.
Passengers, etc. ....	\$5,981	\$5,956
Gross, etc. ....	4,777	4,419
Profit, for week	\$1,204	\$1,537
Aggregate for 42 weeks	\$50,171	\$44,116
Miles run	4,774	4,774

Hull and Barnsley.		
Week ending October 19	1913.	1912
Payroll	12 27	12 14
Goods, etc.	11 12	12 14
Total for week	£15.671	£14 14
Aggregate for 42 weeks	£656.401	£577 14
Man. paid.	£644 14	£565 14

Lancashire and Yorkshire.		
Week ending October 19	1913.	1912.
Passengers, etc.	£45,500	£40,810
Goods, etc.	59,900	73,055
Total for week	£115,400	£113,865
Against 1-42	1913	1912
Make gain		

London, Brighton and South Coast.		
Week ending October 18	1913.	1912.
Total for week .....	264,204	£62,772
Aggregate for 42 weeks .....	2,804,875	2,698,165

Dec. this week, £1,452	Inc. 42 weeks, £106,710
<b>London Electric.</b>	
Total for week .....	£13,485
Aggregate for 42 weeks .....	£567,450
Dec. this week, £465	Inc. 42 weeks, £1,440

London and North Western.		
Week-ending October 19	1913.	1912.
Passengers, etc. ....	£124,000	£121,000
Goods, etc. ....	184,000	191,000
Total for week .....	£308,000	£312,000
Aggregate for 42 weeks ...	13,172,000	12,285,000
Inc. this week, £4,000	Inc. 42 weeks, £917,000	

London and South Western.		
	1913.	1912.
Books, etc. ....	£16,500	£9,900
Aggregate for 42 weeks ...	3,265,800	4,122,100
Inc. this week, £500	Inc. 42 weeks, £144,700	

The corresponding period for 1997 are included in a separate document, which can be found at <http://www.library.utoronto.ca/conservation/1997>.

Metropolitan.		
1. Total population	1,000,000	1,000,000
2. Total population	1,000,000	1,000,000
3. Total population	1,000,000	1,000,000
4. Total population	1,000,000	1,000,000
5. Total population	1,000,000	1,000,000
6. Total population	1,000,000	1,000,000
7. Total population	1,000,000	1,000,000
8. Total population	1,000,000	1,000,000
9. Total population	1,000,000	1,000,000
10. Total population	1,000,000	1,000,000

[illegible]

Midland.		
passengers, etc.....	£85,000	£32,000
Aggregate for 42 weeks ....	11,324,000	10,626,000

Midland Great Western of Ireland.		
Week ending October 19	1913.	1912.
Passengers, etc.	£5,775	£5,750
Goods, etc.	8,001	6,997
Inc. this week, £1,029		Inc. 42 weeks, £31,114

North British.		
Week ending 12th Dec.	4,155,800	3,851,700
Inc. this week, £5,500		
Inc. 42 weeks, £355,100		

North Eastern.		
Week ending	1891	1892
Passengers, etc.	264,393	261,113
Goods, etc.	145,879	148,609
Total for week	2213,272	2209,722
Miles open	1,734	1,734

North London.		
Week ending	October 19	1912.
Passengers, &c.	25,367	28,202
Goods, etc.	5,100	5,512
Aggregate for 42 weeks	£355,904	£342,457
Dec. this week, £514		

North Staffordshire.		
	1914	1915
Passengers, etc. ....	£5,100	£5,320
Total for week .....	£25,810	£21,450
Aggregate for 42 weeks ...	£857,120	£815,050
Inc. 42 weeks, £42,070		

Week ending October 19	1913.	(80)
Passengers, etc., .....		
 Total amount paid for .....	 \$277,600	
Inc. 42 weeks, \$258-65		

South Eastern and Chatham.		
Week ending October 18	1913.	
Grains, etc.	26,075	25,011
Total for week		
Aggregate for 42 weeks	4,191,766	
Mean	654	

Taff Vale		
Passenger, etc.	1017	
Goods, etc.	21 476	
	1005	
	244,011	
	17314	

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Vol. CIV.

SATURDAY, NOVEMBER 1, 1913.

No. 18.

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	Railway			
	Borne,			
		£		
	50% 247	251,075	50.15	
		845,825	53.26	
	1,000,000	801,230	845,785	
1000-10		2,371,028	1,285,000	
	10.11	2,440,584	1,341,433	
		1,125,142	1,408,477	
		2,633,515	1,475,354	

## Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways for the week ended October 26 gives a total of £2,296,569, which was earned on 21.934 miles, being at the rate of £104 14s. per mile of line open. For the corresponding week of 1912, the receipts of the same lines amounted to £2,250,354, with 21.857 miles open, or £102 10s. 1d. per mile. Thus there was an increase of £46,215 in the receipts, an increase of 77 in the mileage, and an increase of £1 14s. 11d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £35,947 (or £1 10s. 7d. per mile) in the passenger receipts and an increase of £10,658 (or 5s. 7d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the forty-three weeks in the passenger receipts has been £2,838,956, while the aggregate increase in the goods traffic was £3,970,437. The aggregate receipts of the fifty railways for forty-three weeks (December 29 to October 26) amounted to £100,820,913, in comparison with £93,828,895 last year, an increase of £7,001,018, not including receipts from certain canals, etc.

## MONEY AND STOCK MARKETS.

CONSOLS.—WEDNESDAY, NOVEMBER 5.

Continuation Days.	Ticket Days.	Fay Day.
Mines ..... 10	Mines ..... 10	Nov. 13
General ..... 18	General ..... 18	Nov. 27
Mines ..... 23	Mines ..... 23	Nov. 27
General ..... 25	General ..... 25	Nov. 27
Mines ..... 29	Mines ..... 29	Nov. 27
General ..... 30	General ..... 30	Nov. 27

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

At Present. Last week. Last Year.

Bank's Coin and Bullion	1,000,000	1,000,000	1,000,000
Total Reserve	1,000,000	1,000,000	1,000,000
Proportion of Reserve to Gold	50.25 p.c.	50.25 p.c.	50.25 p.c.
Notes in Circulation	1,000,000	1,000,000	1,000,000
Bank Rate	5 p.c.	5 p.c.	5 p.c.
Open Market Discount	4 p.c.	4 p.c.	4 p.c.
Bankers' Clearing House	1,000,000	1,000,000	1,000,000
Silver bars, per oz. (spot)	2 1/2	2 1/2	2 1/2
Consols (account)	7 1/2	7 1/2	7 1/2
French 3 per cent. (acc.)	87 1/2	87 1/2	87 1/2
Paris Cheque exchange	2 1/2	2 1/2	2 1/2
New York 4 1/2 per cent. (bills)	4 1/2	4 1/2	4 1/2
Rio de Janeiro exchange	1 1/2	1 1/2	1 1/2
Valparaiso 90-day exch'e	1 1/2	1 1/2	1 1/2
Calcutta transfers	18 1/2	18 1/2	18 1/2
Hong Kong transfers	18 1/2	18 1/2	18 1/2
Shanghai transfers	28 1/2	28 1/2	28 1/2

The Bank Return this week is less informative than usual. The sum of £514,000 was received in gold from abroad, chiefly in the form of bars. Against this only is to be set off £50,000 exported to Egypt, while £102,000 came in from circulation within the country, and the quantity of notes in the hands of the public contracted by £53,000. Thus the Reserve is up £513,000, but this is not the whole tale; it is known that about half-a-million was sent from this country to Paris right in the face of the exchange. There is no indication that the money came out of the Bank, but, wherever it came from, these commercially unprofitable movements are disturbing. A similar sum was engaged for the United States, which added to the doubtfulness of the situation. Some relief was experienced when it was known that the Bank Rate remained unaltered, because, as is always the case when large transactions take place which cannot be accounted for by the ordinary principles of commerce, people are very apt to suspect the financial situation may be worse than it is. Government Deposits were £1,700,000 down, indicating repayments to the Bank in connection with ways and means, advances and deficiency bills. Public Deposits are, nevertheless, £2,762,000 higher, owing to the issue of Treasury bills. Private deposits are, therefore, £261,000 lower, in spite of £3,000,000 borrowed from the Bank, as is indicated by a rise of that amount in Other Securities. As the result of all changes the ratio of Reserve to the liabilities of the Bank is over 1 1/2 points lower at about 54 1/2 per cent. From this point of view the position is strong enough; but judged by the stock of gold and bullion there is no excess of stability, and









the same may, much more than in the case of the other commodities, and the high cost of the railway transport of these commodities, and the changes in the rate of the railway transport of these commodities. The bakers of bread, for instance, have to pay for the transport of one halfpenny per 4-lb. loaf, or an increase of 10 per cent. on the prime article of the people, and the fact is simply recorded as a matter of information, while the corn and flour merchants, whose increase of price has sent up the price of bread, are never charged with unreasonableness because the inexorable law of supply and demand is recognised in their price-list. Even as I write these words I come across a notice that all soap retailers are putting up their prices by one halfpenny per pound, and the fact is simply recorded as a matter of information, while the soap manufacturers, whose increase of price has sent up the price of soap, are never charged with unreasonableness because the inexorable law of supply and demand is recognised in their price-list. Even as I write these words I come across a notice that all soap retailers are putting up their prices by one halfpenny per pound, and the fact is simply recorded as a matter of information, while the soap manufacturers, whose increase of price has sent up the price of soap, are never charged with unreasonableness because the inexorable law of supply and demand is recognised in their price-list.

Yet they are accepted as inevitable and paid without a murmur. But when railway companies attempt to equate the increased cost of labour and material by a small and inadequate advance of their rates to the extent of about 4 per cent., there are notices of motion in Chambers of Commerce and traders' associations. Questions are asked in Parliament, and there are demands for a committee of inquiry, with all the resulting unrest which was found so detrimental to railway and traders alike from 1888 to 1894. Is this fair and reasonable treatment? After all, what is the actual effect on the consumer of the increase in the rates? The *Railway Gazette* helps us to answer this question. It says: "The flour rate from Hull to the Midlands is 10s. per ton. There are sixteen sacks of flour to the ton; 4 per cent. on 10s. would mean about one penny on the selling price of a hundred quarter loaves. The rate for boots from Northampton to London is 25s. per ton. If the legal maximum is 25s. 7d. the rate cannot be increased beyond that amount. It is said there are about 50 pairs of boots to a ton, so that one penny would cover the additional cost of carrying 114 pairs. Soap from Manchester to London will cost 11d. per ton more. This works out at one penny for 300 lbs. Salt from Cheshire to London will cost 5d. per ton more, or one penny for 48 lbs." That is the effect of the increase, but what is its justification? It is two-fold. First, the increased cost of coal, steel rails and all other material. Take a company whose consumption of coal is, say, the relatively small amount of 400,000 tons per annum. During the last few years the cost of coal to the company will have gone up by at least 3s. per ton, making a net increase in the expenditure of £60,000 per annum. Add to that the increase in the cost of all other material and it will be seen that such an increased cost has been incurred as would justify a larger increase in rates than has been made. But take the second and more proximate cause of the increase. In 1911 occurred a great railway strike affecting, with one notable exception, the whole of the railways in Great Britain. The companies believed themselves to be strong enough to fight the strike, but owing to the condition of international affairs and the absolute necessity of railways, efficiently worked, to the defence of the country, the Government intervened and urged the companies on patriotic grounds to agree to a certain settlement. The directors, as patriots, put their country first and accepted the settlement, the Government promising that steps should be taken to enable the companies legally to justify any increase in rates which might be necessary to equate the increased cost of labour which would arise from the proposed settlement. The country is bound to recognise the acts of its Government, and, so far from the traders criticising the railway companies for the action they have taken, they ought to compliment them on their patriotism in subordinating their own interests to those of their country.

An unfounded but stock complaint against railway companies arises on the question of the reasonable charge for demurrage on trucks improperly detained by traders. To any fair-minded

the actual cost of providing a truck for one day—that is to say, interest on the cost of construction plus a small allowance for repairs and renewal per annum, divided by the number of working days in the year. Such a basis would leave out of consideration several important elements of which, for the moment, I will only mention two. The first is that practical experience shows that a truck is not earning money for its owner anything like every working day, nor, indeed, for a month or so. The second is that a truck for any period longer than is reasonably necessary for loading or unloading, or for the transport of goods, is a waste of money. The truck is a capital asset, and its use should be governed by the principle of the most economical use of capital. The truck is a capital asset, and its use should be governed by the principle of the most economical use of capital. The truck is a capital asset, and its use should be governed by the principle of the most economical use of capital.

sorry for the conduct of its business. The critic will no doubt say, let the railway companies provide more trucks. But even as it is, a large proportion of trucks are lying idle during several months each year, and the provision of further surplus wagons would mean a large amount of capital which would earn interest only for a few months. This would be most unfair to the railway shareholders, who have a right to, at any rate, some consideration. For many years railway companies sought to enforce a demurrage charge on a basis which was, to a certain extent, penal, although it rarely happened that a company would not have greatly preferred the free use of its plant, even to the uncompensated payment of the charge by the trader. But three shillings per day was constantly objected to by traders, although I think unreasonably.

Railway companies were loath to force the question to an issue before the Railway Commission as, little though they are credited with such a feeling, they are, generally speaking, animated by a desire to work on amicable terms with their customers. But an awkward state of affairs arose. Reasonable men paid the charge, unreasonable men refused to do so, and unless the railway companies decided to recover at law, a condition of undue preference arose. To cut the Gordian knot the railway companies decided to reduce the charge to a figure to which it was thought no possible exception could be taken. The three shillings per day was at one blow cut down to 1s. 6d. One would have thought the charge would have been cheerfully paid, and that there was an end for all time to disputes between railway companies and traders as to demurrage. But no—the traders take shelter behind the, in some cases, unenforced three shillings, and claim that the enforced one and sixpence is a new charge. It is to be hoped that the railway companies will be firm in enforcing on reasonable and unreasonable traders alike this most reasonable charge. In order that you may clearly see its reasonableness, let me briefly explain to you what demurrage includes and involves. First the forcible detention of the truck. Second the user and occupation of siding accommodation required for other purposes. Third the daily shunting caused by the occupancy of sidings by the detained truck. Fourth the occupancy of sidings at other stations by trucks waiting to come to the station where the detained truck is wrongly occupying the accommodation. Fifth—the daily shunting of the sidings at stations where such waiting trucks are detained. Such a cumulative effect may appear strange until it is remembered that demurrage is usually incurred at the busy season of the year. I think you will see what an improper and unfair charge is made against railways when they are said to be acting unreasonably in enforcing a moderate and, in my judgment, most inadequate charge for demurrage. The traders ought, in their own interest, to welcome the new regulations, as it is hoped that their enforcement may lead to a much improved supply of trucks at busy seasons.

We are further told that we enjoy a monopoly and that we use that monopoly tyrannically to the detriment of the trader. And it is also said that the monopoly has, in recent years, been increased by friendly working arrangements between certain railway companies. Now let us see what amount of truth there is in this. It must be pretty generally admitted that the charge of monopoly prior to the recent arrangements could not seriously be upheld. Parliament had authorised competing lines to practically every important town in the kingdom save some of those served by the North Eastern Railway. Now when the companies already referred to came to their working arrangements, all the advantages to traders arising from low competitive rates were perpetuated, for the companies could not increase these rates without being liable to be called on to justify such increase before the Railway Commissioners. But quite independently of all this, those who allege monopoly forget two serious forms of competition which, as now combined, afford a most effective defence to the trader and a factor

the working of motor traction on the roads in connection with them.

I know from personal experience how very active such competition is on the South Coast, and can hardly doubt that it exists, probably to an even greater extent, in other directions.

round London for a distance of at least thirty miles—that is to say, a circle with a diameter of sixty miles—are enormous steam and petrol lorries to be met, carrying traffic which hitherto





There is our view, the view from the inside, the view inevitably more or less influenced by tradition and governed by precedent, influenced by self-interest and oftentimes by prejudice. But we think that the view from the outside, the view of the strong man, the other is to fear it and to be too much influenced by it. The middle course, let us winnow the chaff from the wheat, let us take a pride in our work, remembering how largely the welfare of the State and the progress of its industrial life depends on the efficiency of the vast organisation with which it is our honour to be connected.

A hearty vote of thanks was accorded to Sir Charles Owens, and testimony was borne by the Hon. W. P. Reeves, director of the school, to the aid which Sir Charles had given in forwarding the work of the school. In reply, Sir Charles Owens observed that he would be amply rewarded if anything which he had said should have the effect of stimulating the students in the performance of their duty and in meeting the disappointments which were not unknown in railway work.

## THE RAILWAYS ROYAL COMMISSION.

Lord Loreburn presided over a preliminary meeting of the Royal Commission on Railway Nationalisation at the Board of Trade office. All the members were present, namely, The Lord Loreburn, Sir Charles Owens, the Right Hon. F. Huth Jackson, Sir F. Upcott, Sir W. Plender, Mr. A. Balfour, Mr. R. E. Prothero, and Mr. D. J. Shackleton, with Mr. E. W. Rowntree, of the Board of Trade.

Details as to the procedure and the class of evidence to be called were discussed at some length, and a general outline was adopted. It was decided to hold the meetings of the Commission at Winchester House, E.C., commencing on November 14, at 10.30 a.m.

The sittings of the Commission will be open to the public.

Mr. Sydney Buxton, President of the Board of Trade, speaking at the Leicester Chamber of Commerce banquet on October 24, referred to the appointment of the Commission, and said he was glad to say that the Government had obtained the services of gentlemen fully competent to deal impartially and with common sense with this very important matter. Proceeding, he said: "The question of the appointment of a Royal Commission for this purpose has been before us at the Board of Trade for some time past. My experience of the Board of Trade has continually and continuously confirmed the view that all is not well between the railways and the traders and the community. My experiences in connection with the two Railways Bills of last year was significant of the friction which exists, and which tends to increase rather than to abate. At the same time, the great extension of amalgamations and working agreements has altered the whole position as regards competition and monopoly, and the position of the railways in reference to the State. Looking at the position as a whole, the Government came to the conclusion that without the authority and information which an inquiry alone could give, they were not on sufficiently sure ground to deal adequately with the problem. Hence the appointment of the Royal Commission. I believe that the Commission can deal more promptly and more searchingly with the problem and with a greater likelihood of unanimity than a large Commission."

"Further—and here again I believe I shall have general assent representatives of special interests, as such are

specifically excluded, whether of the railway companies or their critics, as well as those of pronounced opinion, whether in regard to policy or detail. At the same time, of course, all interests and opinions will be given a patient hearing. The terms of reference are drawn very widely, so that the Royal Commission will be able to deal with every aspect of the problem of the relations between the railways and the community. They will be enabled to consider and report:—

"As to what extent and in what way steps should be taken to improve these relations."

foundation

"And even whether the State should itself undertake the responsibility."

"In none of these matters is any new question of principle involved. They can be considered from the point of view of the interests of the community as a whole. The question of safety of working and the question of the actual conditions of employment are not included in the terms of reference. These questions are not germane to the main object in view in the appointment of the Railway Commission—the relations between the railway companies as business concerns on the one hand, and the State as representing the community on the other. To include them in the present inquiry would complicate and confuse the issue, and would greatly and unduly prolong the labours of the Commission, even if its composition were adapted for the purpose. The Commission is a strong one, and well adapted to give impartial consideration to the question in all its bearings."

### A RAILWAY OFFICER'S OPINION.

"One of the greatest railway authorities in the country" is reported to have made the following statement: "I think any expression of opinion on the Commission just now is premature, because the reference is so obscure. I cannot gather whether it is intended that the relations between railways and traders or between railways and the State are to be inquired into. If it be the latter, I think the evidence which will be obtained concerning the working of railways in other countries will make the Commission decide against nationalisation."

### THE ATTITUDE OF RAILWAY CLERKS.

Mr. H. Romeril, President of the Railway Clerks' Association, presided at a meeting of Clearing House clerks and of clerks employed at the head offices of railways, held on Wednesday to consider "the appointment of the Royal Commission on Railway Nationalisation." The chairman expressed the opinion that the present system could not continue, and Mr. A. G. Walkden, General Secretary, said it was evident that the Commission was going to concentrate on the question whether or not the railway system should be taken out of the hands of the great capitalists and administered by the State on behalf of the whole community. Everyone seemed to be in favour of the idea, and it appeared as if the railway world was prepared to accept it. If he gave evidence before the Commission he would advocate that, in the event of nationalisation, the Clearing House staff should

### National British Railways.

A resolution was adopted requesting the Association to take all steps, in view of possible changes in railway adminis-

Advertisements in the P. and O. Times.

A staff of engineers under Sir George Whitehouse had been sent to Brazil during the half-year, and were now engaged in making the plans and surveys for adapting the existing road beds to bring the old Serra inclines again into regular working order. It would be observed that once more they had had to provide for depreciation in the securities in which a large part of the reserve fund was invested. That depreciation was becoming a very serious matter, and it would be readily understood that the directors, equally with the shareholders, regretted exceedingly that every half-year sums had to be provided for depreciation. Their largest investment was Consols, which they had commenced to buy in 1893, and their last purchase was made in January, 1910. The average cost had been 96 per cent. A large proportion of their recent investments had been in securities, which were repayable at par in the near future, and if and when they had further money to invest they should not lose sight of the plan. As regarded the expenditure for rolling stock for the Bragantina Railway, the stock consisted of two locomotives and ten bogie wagons. There were no first and second-class carriages purchased for the Bragantina section, and the cost of the rolling stock must be included in the capital expenditure he had just mentioned. If the shareholders would turn to abstract A, page 10, they would see the item "Additional houses and purchase of property, 70 contos, &c." Of that amount something over 45 contos represented buildings erected for the purpose of housing the men employed on the new works of the old Serra inclines. There had been a large increase in the legal charges in Brazil. The increase mainly represented charges and disbursements for the previous 19 months in respect of the law suits which they had pending and their relations with the Government regarding the *finco*. The Company's lawyer had had to proceed to Rio and then on three or four times, and, further, he had had to employ lawyers resident in Rio and then, again, certain documents had to be printed and published. They had recently obtained judgment in the company's favour from the Supreme Federal Court in respect of a claim arising out of the accident on their line in 1898, and that, it was hoped, would put an end to all the other claims arising out of the same accident. As their lawyer had been very energetic on their behalf, and as mainly owing to his services they had been successful, they had made him a gratuity of thirty contos. Another item which required explanation was the increase in the stores at San Paulo. Those stores consisted of not only the necessary spares and appliances for the work of the railway, but also included the rolling stock which had not been taken into commission. During the period under review there had been shipped three dining cars and a large number of wagons and vans, the cost of which, with the freight, dues, &c., represented practically a quarter of million pounds, and inasmuch as at June 30 these were not actually in use on the railway, their cost was added to the stores' account. In conclusion the Chairman stated that with the contemplated expenditure in the works of the old Serra inclines, it would be necessary to consider an increase of



capital. Inasmuch as the expenditure would not for a few months be very serious, they had decided, in view of the present state of the money market, to defer the question of raising additional capital.

LT.-COL. SIR GERARD SMITH, K.C.M.G., seconded the motion, which was carried unanimously. The resolutions for payment of dividends were also carried.

### MEXICAN RAILWAY.

The half-yearly meeting was held on Thursday in River Plate House, Finsbury Circus, E.C. Mr. Vincent W. Yorke presiding.

The CHAIRMAN, in moving the adoption of the report and accounts (an abstract of which appeared in last Saturday's RAILWAY TIMES), expressed regret that the meeting was overshadowed by the political troubles in Mexico. The accounts showed receipts which constituted a record in the history of the company, and if it were not for the fall in exchange the results would have been eminently satisfactory. Nearly every item of receipts showed an increase. Passengers were up over 130,000 in number and \$202,000 in money. Express receipts were better by \$35,000. The total receipts from goods were greater by \$52,938, the increase being chiefly in import traffic. Coal was up over \$43,000, but this was entirely due to abnormal conditions. The receipts from livestock traffic increased nearly \$16,000. This was owing to the difficulty in getting supplies from the northern part of the Republic, which had caused heavy shipments to be made from territory adjacent to this company's line. They had carried a considerable amount of additional traffic, owing to the serious interruptions which had been caused to the National Railways. On the other hand, there was no reason to suppose that these receipts would fall off for some little time to come, unless the political situation took a turn very much for the worse. With one exception, the schedules of expenses only showed the increases due to the increased traffic. The exception was the account, conducting transportation, where there was an increase of \$100,000 under the heading of station service, which was due to the extra amount they had to provide under their guarantee as proportion of the deficiency in the earnings of the Vera Cruz Terminal Company to meet its fixed charges. Every effort was being made by those on the spot to render that undertaking more self-supporting, and he was hopeful that in time the deficiency would be reduced if not wiped out entirely.

The most serious matter with which he had to deal was the net revenue account and the effect that the fall in exchange had had upon it. They earned more than \$2,500,000, which at the exchange which had prevailed for some years would have produced over £260,000, and have allowed them to pay a considerably better dividend on the ordinary stock. They had taken these dollars into the accounts at the rate at which they had actually been remitted to this side—that was, about 22.5d.; but from the sum thus arrived at they had to deduct the further sum of £6,848, being the difference which they had to write off their Mexican currency assets to make them conform to the rate of exchange ruling at the end of the half-year. Thus the amount of dollars which in ordinary times would have produced £260,000 had only been worth £232,600, and had meant a loss of nearly £28,000.

In regard to the debit balance on renewal account, it had been reduced by over £13,000 during the half-year, and he was glad to say that the end of their programme of renewals was now in sight, and he hoped that the whole balance might be written off within three years from now. The property had been well maintained during the half-year. No new works of any magnitude had been carried out. The results of the working of the branch lines had been very satisfactory, and the board had purchased recently, at a very reasonable price, a line from San Marcos, which was previously privately owned. It was a property capable of considerable development. The concession, which was included in the purchase, gave the right to further extensions into a district as yet untouched by any railway.

Now, with regard to the current half-year, as far as traffic were concerned, they had done remarkably well up to the present time, and he did not see any reason why these should fall off in the immediate future. All the crops, except maize,

were good. But the newly-imposed increase in the import duties was undoubtedly an unsatisfactory feature, and would affect their foreign traffic before long, and the depression and confusion in business all through the Republic must ultimately tend to diminish their receipts. Their net receipts on the basis of the first three months should be about \$2,500,000 for the half-year, which, at the normal rate of exchange of recent times, would produce more than £250,000. The average rate at which remittances had been received during the current half-year was below 1s. 6d., and if this rate continued and did not get worse they would have to face at the end of the half-year a loss of £65,000 on remittances alone. In addition to this they would have to write down their balances in Mexico to the exchange at December 31, and, if the exchange was then at the present figure, a further loss of any sum from £10,000 to £20,000 would have to be borne by the half-year. Of course, he was not prophesying the result of the half-year; he had merely taken the estimates of the net returns of the first three months and worked them out at the rate of exchange of the three months. It was a simple matter to carry the calculation further, and to show on this basis that the ordinary dividend would be wiped out and the dividend on the second preference stock very seriously imperilled. As to the course exchange was likely to take he could give no guidance, and could only say that the tendency during the last few days had not been an improving one. No real improvement could set in until the political conditions of the Republic underwent a change for the better. It was a matter of great regret to the board that they should meet the shareholders in such depressing circumstances. Mexico was going through what almost every South and Central American State had gone through, and from which each State, almost without exception had recovered. It was quite possible that the end of the troubles might be nearer than any of them now supposed.

Approved—

Mr. H. C. ...  
carried unanimously.

### BUENOS AYRES AND PACIFIC RAILWAY.

The accounts of the Buenos Ayres and Pacific Railway to June 30, 1913, were issued on Monday. They show that the total capital expenditure now amounts to £25,814,409, while the receipts have been £27,450,000, as follows:—Ordinary stock, £10,000,000; 5 per cent. first preference stock, £1,200,000; 5 per cent. non-cumulative second preference stock, £1,000,000; 4 per cent. first debenture stock, £2,025,000; 4½ per cent. second debenture stock, £2,075,000; 5 per cent. debenture stock, £307,327; 4½ per cent. consolidated debenture stock, £7,942,673; 5 per cent. (1912) debenture stock, £2,000,000. The capital expenditure during the year was £1,100,000.

The revenue accounts for the year ended June 30 show the receipts to have been as under:—

Goods ..	3,885,402
Trains ..	1,885,402
Adverts ..	80,802

The revenue expenditure during the same period was as follows:—

Maintenance of way and works ..	13,131,110
Locomotive maintenance ..	1,183,110
Vehicle do.	117,000
General charges ..	93,375

The balance from the traffic account is £2,130,602, and to this is added balance from last account, £60,019; balance of interest account, £183,110, and deducted interest on first debenture stock, £117,000; interest on second debenture stock, £93,375; interest on 5 per cent. debenture stock,



## LONDON AND SOUTH WESTERN RAILWAY ELECTRIFICATION.

**ENTRE RÍOS RAILWAY.**—The accounts for the year to June 30 show, after providing for the interim dividends paid on the first and second preference stock, a balance to the credit of net revenue of £64,681. This sum is arrived at after writing off in agreement with the Argentine Railway Company the whole of the heavy and exceptional renewal and flood expenditure incurred during the year, and crediting the net revenue account with the amount payable by the Argentine Railway Company in respect of its guarantee under the working agreement. The board has decided to recommend the distribution of this balance in final dividends of 2½ per cent. on the first preference stock (making 5 per cent. for the year), and 2 per cent. on the second preference stock (making 4 per cent. for the year). The payment of these dividends will result in the dividend on the first preference stock becoming cumulative.



will be 3 in. above rail level. The rail, of which considerable quantities have been delivered, is of special steel having a resistance of about  $\frac{1}{4}$  times that of copper of the same length and cross sectional area, and weighs 100 lbs. per lineal yard. It will be supported by insulators fixed on the sleepers and will be bolted across the joints by four flexible copper bonds expanded into holes drilled in the rails before delivery.

Current will be collected from the rail by the trains by means of cast steel collector shoes hung from the trucks, and the return side of the circuit will be formed by the running rails, which will be bolted across the joints by two flexible copper bonds.

The electric traction of the electrified lines, by means of which are being provided. Each unit will consist of three compartment type coaches and will be equipped with four motors, each of 275 horse power, together with the necessary control apparatus. These motors will be the largest ever mounted on a passenger coach.

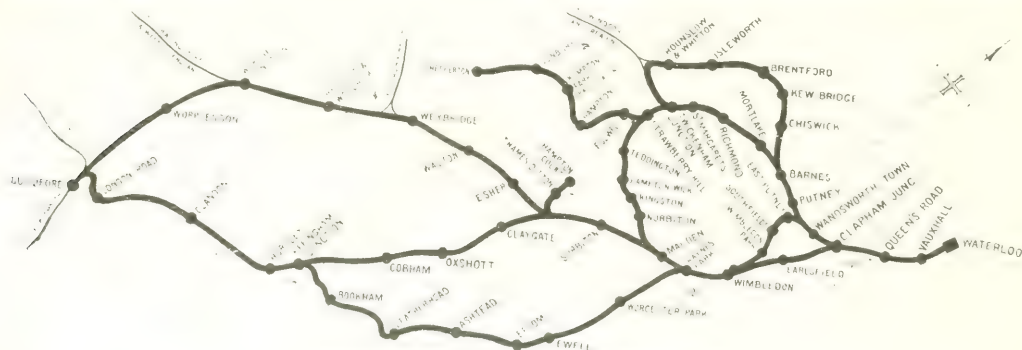
A special motor truck, carrying two motors, will be fixed under each end of the train unit, the remaining trucks being of the company's standard pattern. The control apparatus will be of the relay automatic multiple-unit type providing for uniform acceleration, and controlling from the front driving cab all the motors on a train of any length. Every train unit will have a driving cab, containing control apparatus for two motors, at each end, two luggage vans and seating accommodation for passengers.

stopping train the second portion of the signal was given when the train passed the signal-box. There, therefore, could be no necessity for a "free" in such circumstances.—Major Pringle: It never occurred to you to think of these things before you freed the signalman?—No, sir.

### REPORT ON THE DERAILMENT OF A SCOTCH EXPRESS.

Colonel von Donop has presented to the Board of Trade his report on the result of his inquiry into the circumstances under which a passenger train left the rails at about 5.43 a.m. on September 13, near Chevington, on the North Eastern Railway. The 11.45 p.m. East Coast down express train from London to Edinburgh, consisting of an engine tender and six coaches, was running between Widdrington and Chevington stations between Newcastle and Berwick, when the whole of the vehicles, with the exception of the engine, left the rails. The speed of the train at the time was from 55 to 60 miles an hour.

Colonel von Donop, in the course of his conclusion, says: "From the way in which the line, immediately to the south of the point where the derailment occurred, was found after the accident to be sluiced over, and from the evidence of the driver and fireman as to the unusual lurch given by the engine when passing over it, there can, in my opinion, be little doubt that the track, which had probably been slightly



London and South Western Railway Electrification

The map shows the extent of the electrified lines, and the various engineering works and construction areas along the route. The map is a detailed plan of the railway network, showing the main line and various branches, with stations and key points marked.

The Kingston Roundabout line first, and it is hoped that this line will be in operation before the end of next year. Electric services on the Hampton Court and Shepperton branches and on the Hounslow Loop line will be added as soon afterwards as possible.

The contract for the supply of the rolling stock for the new electric services has already been awarded to the British Electric Traction Company. The contract for the supply of the rolling stock for the new electric services has already been awarded to the British Electric Traction Company.

### ACCIDENT AT WATERLOO JUNCTION.

The South Western Railway Company's train from London to Southampton, which was derailed at Waterloo Junction on October 25, was broken up. The train was derailed at Waterloo Junction on October 25, and the engine and tender were derailed. The train was broken up, and the engine and tender were derailed. The train was broken up, and the engine and tender were derailed.

Shifted by previous trains, was sluiced to a still greater extent out of alignment by the engine of this train running over it at a high rate of speed. And, though the engine itself with its leading bogie was able to run over the line in this condition, it is evident that one of the vehicles of the train was unable to do so, and was derailed in consequence. The leading vehicle of the train, behind the tender, was, it will be noted, a six-wheeled van, and a vehicle of that description would be especially liable to become derailed in running over a line which had been sluiced in both directions, as had happened at the accident. It is in my opinion impossible not to connect the derailing of the line with the inadequacy of ballast which obtained at the time of this derailment and during the two years previous to it. In all other details of its construction, the line was of ample strength, and there seems no reason for thinking that there was any defect in the rolling stock; but the deficiency of ballast was an undoubted source of weakness, and it is in my opinion, that that weakness that the shoving over of the line which led to this derailment must be attributed. This accident must therefore be attributed to the fact of the trains having been allowed to run over the line at too high a rate of speed before the re-ballasting operations, which were at that time being carried out, were substantially completed.

**Institute of Directors.**—The annual dinner of the Institute of Directors, which was held at the Whitehall Rooms on November 26, Mr. Selous, President of the Board of Trade, Lord Selous, President of the Institute of Directors, and Mr. Selous, President of the Institute of Directors, were present. The dinner was held at the Whitehall Rooms on November 26, and the President of the Institute of Directors, Mr. Selous, was present.

## PROPOSED UNDERGROUND EXTENSION TO THE CRYSTAL PALACE.

AN UNDERGROUND extension of the tube railway from the Crystal Palace to the Crystal Palace, London were prepared to continue the tube railway from the Crystal Palace to the Crystal Palace, London, provided that the company received the friendly support of the local authorities of the various districts.

The company has since stated that the proposed extension is conditional on the acquisition of the Crystal Palace for the same purpose.

The projected high-speed Kearney underground line would be the same distance.

## LITIGATION OVER G.C.R. CLERKS' PENSIONS.

AN APPEAL was presented to the Court of Appeal on October 27, that the hearing might be accelerated of an appeal against a decision of Mr. Justice Scrutton, in a dispute between W. H. T. Porter, a goods clerk at the New Holland (Lincolnshire) Station of the Great Central Railway, and Sir Edward H. Fraser and other members of the Administrative Committee of the Great Central Railway.

Mr. Peterson, K.C., on behalf of the respondent Porter, said that by the Great Central Railway Pension Fund Act, 1905, a pension fund was constituted for salaried clerks in the employment of the company, paid by the month. Pensions by the rules became payable "to any new member between the ages of 50 and 60 who, after the expiration of 30 years in the service, is removed by the directors of the company from the service." Porter came under that head. During the coal strike the railway authorities gave notice determining the employment of all their clerks, and the question was whether, in those circumstances, the pensions became payable. Porter made a claim which, being denied went to arbitration. Mr. A. Moon, the arbitrator, found the facts in favour of Porter, and stated a special case, which came before Mr. Justice Scrutton, who affirmed the opinion which the arbitrator had expressed, namely, that the pension was payable. Against that decision certain members of the Pension Fund Committee had lodged an appeal. The case affected a large number of men, and it also affected clerks over the age of 40, because if Mr. Justice Scrutton's ruling was right they could not get back on to the fund, yet the company were meanwhile going on deducting from their salaries contributions to the pension fund, they having been taken back into the company's service.

Mr. Ward, for the nominative half of the Committee, said that two questions were raised—(1) Whether the man was ever removed at all within the meaning of the rules, and (2), if he was, did he by his conduct waive his right to the pension?

The Court decided to hear the appeal on Tuesday, November 4.

## PERSONAL.

Mr. W. Hudson, M.P.

Sir Walter Nugent

Mr. A. Mariani

Mr. Hans Winterfeld

Mr. W. L. Parish

Mr. H. Dimmock

Mr. A. L. Toward

Mr. Oliver R. H. Bury has been elected chairman of the Company, to fill the vacancy caused by the death of the late Sir W. H. Bury.

Mr. H. L. Plam

Mr. J. Meckboom

Mr. C. J. Ball

with a roll-top desk. Mr. J. Adams, his successor, made the presentation, and referred to Mr. Ball's forty-seven years' connection with the department. Mr. T. Telling also voiced the feelings of the subscribers.

Mr. William O. May

year, and Mr. W. Clow, superintendent of the Great Central Railway.

Mr. S. C. Marengo, who recently retired from the post of sub-manager of the Great Central Railway, is one of the three Argentines who has

Mr. Zeko Nakamura

struction of the projected lines in Manchuria, which will add

Sir William Whyte, a director of the Canadian Pacific Railway, at a recent trip through Southern Alberta, advised settlers in that section to substitute fodder for cereal crops on the land. At the present time approximately no less than one-third of the land in Southern Alberta is under stock. Sir William added: "Our railway presidents, high bank officials, in fact leaders in nearly all branches of commercial pursuits in our cities to-day, raised. It was there they got their start, where they got the

Mr. W. S. Dawley, the American engineer to the Yunnan Railway, has been home on five months' leave. Mr. Dawley has been in

most convenient point on the Government railway to the tin

Paris Electric Railway Extension

## RAILWAY NOTES.

**Cammell Laird and Company, Limited.** The directors have decided to purchase the North Western Railway, and to sell the company to the North Western Railway Company, Limited, at a price of £1,000,000.

**Canadian Canal Contract.** The Canadian Government has decided to purchase the new Welland Canal, and to sell the company to the Canadian Government, at a price of £1,000,000.

**Welsh Signal Box Blown Down.** A signal box at Queen's Arms, near Cardiff, was blown down by a bomb, and the signalman was injured.

**Guayaquil and Quito Railway Bonds.** The Government of Ecuador has decided to purchase the new Guayaquil and Quito Railway, and to sell the company to the Government, at a price of £1,000,000.

**Austria and the Canadian Pacific.** The Canadian Pacific Railway Company has decided to purchase the new Austrian Railway, and to sell the company to the Canadian Pacific Railway Company, at a price of £1,000,000.

**South African Railways Contracts.** The Administration has accepted the tender of the A.E.C. Electrical Company of South Africa for the supply of electricity to the South African Railways, and to the Transvaal Provincial Government, at a price of £1,000,000.

**Reported Japanese Railway Loan.** The Japanese Government has decided to purchase the new Japanese Railway, and to sell the company to the Japanese Government, at a price of £1,000,000.

**Escalators Between Bakerloo Railway and Paddington Station.** The half-mile extension of the Bakerloo Railway to the Paddington Station, and the new Western Railway, will be completed by the end of the year.

**Issue of Argentine Government Bonds.** The Buenos Ayres Great Southern Railway Company has this week offered to the Argentine Government, the issue of bonds to defray part of the estimated cost of the railway, which the company is executing on behalf of the Argentine Government.

**Freight Railway Eastern Lectures.** The Eastern Railway Company has decided to purchase the new Freight Railway, and to sell the company to the Eastern Railway Company, at a price of £1,000,000.

**Necessity for Increased Rates in the United States.** Mr. Clark, chairman of the Inter-State Commerce Commission, addressing the National Association of Railway Commissioners on October 28, said that the necessity for increased rates in the United States was becoming more and more apparent, and that the Government was taking measures to increase the rates.

**Underground Motor Tubes.** The London Underground Company has decided to purchase the new Underground Motor Tubes, and to sell the company to the London Underground Company, at a price of £1,000,000.

**Tramway.** The tramway is centrally controlled, and one man can control the whole of the system.

**A Conference on Demurrage.** An announcement was made at the Railway Committee of the Associated Chambers of Commerce had arranged for a conference with railway companies, to discuss the question of demurrage.

**Something in the way of clearing goods within a specified time.** The Railway Committee of the Associated Chambers of Commerce had arranged for a conference with railway companies, to discuss the question of clearing goods within a specified time.

**The Proposed Sale of the Invergarry Railway.** The North British Railway Company has decided to purchase the new Invergarry Railway, and to sell the company to the North British Railway Company, at a price of £1,000,000.

the undertaking of the Invergarry and Fort Augustus Railway was £22,500. The Invergarry Company, however, would not sell under £27,500, and it is proposed that the difference of £5,000 should be raised partly by public subscription, and partly by a provisional order be promoted which would enable the County Council of Invergarry to borrow at least a portion of the capital. The estimated net capital of the company is £344,000, of which £320,000 has been issued.

**North Eastern Conciliation Board.** It is stated that in negotiations for the new agreement between the North Eastern Railway Company and the Union of Railwaymen, the men's leaders are not in favour of binding the men beyond 1914, when the agreement with the other companies will come to an end. The North Eastern agreement terminates at the end of the present year. The union desires to make it possible for the North Eastern men to strike without breaking an agreement if a general stoppage is ordered. The men's leaders are bent on a policy of centralisation of effort, instead of one by which the men seek to improve their conditions of labour by approaching the companies in grades and sections. The North Eastern Company has always insisted on long agreements, and it is asserted that if the directors adhere to that policy a rupture may be looked for.

## GRAND TRUNK RAILWAY COMPANY OF CANADA.

The Grand Trunk Railway of Canada has issued the following statement for the month of September:

Grand Trunk Railway of Canada	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Canada Atlantic Railway Company	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Grand Trunk Western Railway Company	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Detroit, Grand Haven, and Milwaukee Railway Company	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Total for the Whole System.	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Expenses	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Total for the Whole System.	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Expenses	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Total for the Whole System.	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Expenses	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Total for the Whole System.	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Expenses	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Total for the Whole System.	
Month of September, 1913.	
553,500	553,750 +
Net profit	

Expenses	
Month of September, 1913.	
553,500	553,750 +
Net profit	

## PECKETTS' LOCOMOTIVES

PECKETT & SONS,  
ATLAS LOCOMOTIVE WORKS, BRISTOL.

## MIDLAND

RAILWAY CARRIAGE & WAGON CO., LTD.,

Builders of

RAILWAY CARRIAGES,  
RAILWAY WAGONS,  
TRAMWAY CARS,

and every description of Rolling Stock.

MIDLAND WORKS, BIRMINGHAM,  
and Abbey Works, Shrewsbury.



## RAILWAY STOCK AND SHARE LIST.

### HOME RAILWAY ORDINARY STOCKS.

NAME	CHURCHES PRESENT				NAME	CHURCHES PRESENT			
	A Year Ago					A Year Ago			
Barry, Ord.	141	143	144	145	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1896	141	143	144	145	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1897	92	95	97	99	London and Dover, Arml. Ord.	141	143	144	145
Camden, Ord.	732	714	711	721	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1896	732	714	711	721	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1897	54	56	58	60	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1898	11	17	18	19	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1899	3	11	78	118	London and Dover, Arml. Ord.	141	143	144	145
Camden, Prof. Conv. Ord. 1896	142	2	119	6	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1897	14	2	119	6	London and Dover, Arml. Ord.	141	143	144	145
Camden, Prof. Conv. Ord. 1898	75	75	75	75	London and Dover, Arml. Ord.	141	143	144	145
Camden, Prof. Conv. Ord. 1899	61	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Camden, Prof. Conv. Ord. 1900	10	73	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1901	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1902	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1903	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1904	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1905	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1906	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1907	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1908	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1909	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1910	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1911	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1912	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1913	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1914	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1915	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1916	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1917	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1918	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1919	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1920	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1921	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1922	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1923	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1924	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1925	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1926	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	145
Do. Prof. Conv. Ord. 1927	10	69	61	66	London and Dover, Arml. Ord.	141	143	144	14

### Debenture Stocks.

[illegible]**Debenture Stocks** (continued).

N. Staffordshire .....	3	75	75
Do. ....	9	80	80
Do. ....	4	80	80
Do. ....	4	80	80
Do. ....	1	80	80
Do. ....	1	80	80
Do. ....	6	122	124
Do. ....	3	75	75
Do. ....	3	75	75
Worcestershire & Herefordshire .....	1	90	90

### Preference Stocks

[illegible]

### Preference Stocks—

(continued).

Greatest Western Cons. Pref., 5% .....	121
Higland Class A 4½% .....	100
Do. 4% .....	82
Do. 3½%, Prof. Stock 1893 .....	71
Hull and Barnaby 4½%, Prof. 1893 .....	80
Lancashire and Yorks. Con. 3% Pref. ....	72½
Do. 4½%, Prof. 1903 .....	96
London Brighton, etc., Cons. 5% .....	118
London, Chatham, etc., Arbit. 4½% .....	84
Lon. & North Western Cons. 4½% Pref. ...	59
Lon. & South Western Cons. 4½% Pref. ...	97
Do. 4½% Perp. Pref. 1884 .....	96
Do. 3½% Pref. ....	84
Money 3½% Perp. Pref. ....	15
Metropolitan 3½% Pref. ....	78
Do. 3½% Conv. Pref. ....	76
Metropolitan District Ist. Pref. 4½ % ..	82
Do. Assent. Eichen Pref. ....	74
Mt. ... ..	114
Nearth and Brecon 4½% Pref. ....	71
North British Cons. 4½% No. 2 .....	95
Do. Edin. and Glasgow Pref. 4½% ....	105
" " " " " "	119
" " " " " "	116
" " " " " "	122
" " " " " "	118
" " " " " "	118
" " " " " "	118
" " " " " "	118
Do. 4½% Conv. Pref. 1904 .....	93
North London Pref. Coals. 1895 .....	105

[illegible]



# OFFICIAL TRAFFIC RETURNS.

**Barry.**

Week ending October 25	1913.	1912.
Total for week	216,704	217,704
Aggregate for 43 weeks	8,955,500	8,955,500
Miles open	68 1/2	68 1/2
Inc. this week	1,45 1/2	1,45 1/2

**Caledonian.**

Week ending October 25	1913.	1912.
Passengers, etc.	2,114	2,114
Goods, etc.	2,114	2,114
Total for week	4,228	4,228
Aggregate for 43 weeks	183,500	183,500
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Cambrian.**

Week ending October 25	1913.	1912.
Passengers, etc.	22,439	22,439
Goods, etc.	3,021	2,991
Total for week	25,460	25,430
Aggregate for 43 weeks	1,041,177	1,041,177
Miles open	287	287
Inc. this week	287	287

**Central London.**

Week ending October 25	1913.	1912.
Total for week	25,501	25,581
Aggregate for 43 weeks	1,041,177	1,041,177
Miles open	64	64
Inc. this week	1,45 1/2	1,45 1/2

**City and South London.**

Week ending October 25	1913.	1912.
Total for week	43,067	43,067
Aggregate for 43 weeks	1,830,954	1,830,954
Miles open	74	74
Inc. this week	1,159	1,159

**Dublin and South Eastern.**

Week ending October 25	1913.	1912.
Passengers, etc.	25,157	25,157
Goods, etc.	1,785	1,785
Total for week	26,942	26,942
Aggregate for 43 weeks	1,159,114	1,159,114
Miles open	160	160
Inc. this week	1,159	1,159

**Furness.**

Week ending October 25	1913.	1912.
Passengers, etc.	42,481	42,502
Goods, etc.	1,785	1,785
Total for week	44,266	44,287
Aggregate for 43 weeks	1,830,954	1,830,954
Miles open	159	159
Inc. this week	1,159	1,159

**Glasgow and South Western.**

Week ending October 25	1913.	1912.
Passengers, etc.	113,900	113,900
Goods, etc.	2,114	2,114
Total for week	116,014	116,014
Aggregate for 43 weeks	4,955,500	4,955,500
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Great Central.**

Week ending October 25	1913.	1912.
Passengers, etc.	221,300	221,300
Goods, etc.	2,114	2,114
Total for week	223,414	223,414
Aggregate for 43 weeks	9,555,500	9,555,500
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Great Eastern.**

Week ending October 25	1913.	1912.
Passengers, etc.	455,900	455,900
Goods, etc.	2,114	2,114
Total for week	458,014	458,014
Aggregate for 43 weeks	19,555,500	19,555,500
Miles open	1,062 1/2	1,062 1/2
Inc. this week	1,062 1/2	1,062 1/2

**Great Northern.**

Week ending October 25	1913.	1912.
Passengers, etc.	246,300	246,300
Goods, etc.	2,114	2,114
Total for week	248,414	248,414
Aggregate for 43 weeks	10,555,500	10,555,500
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**London and North Western.**

Week ending October 25	1913.	1912.
Passengers, etc.	426,300	426,300
Goods, etc.	2,114	2,114
Total for week	428,414	428,414
Aggregate for 43 weeks	18,555,500	18,555,500
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**London and South Western.**

Week ending October 25	1913.	1912.
Passengers, etc.	426,300	426,300
Goods, etc.	2,114	2,114
Total for week	428,414	428,414
Aggregate for 43 weeks	18,555,500	18,555,500
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Great Northern (Ireland).**

Week ending October 25	1913.	1912.
Passengers, etc.	1,111	1,111
Goods, etc.	1,111	1,111
Total for week	2,222	2,222
Aggregate for 43 weeks	95,500	95,500
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Great North of Scotland.**

Week ending October 25	1913.	1912.
Passengers, etc.	2,114	2,114
Goods, etc.	2,114	2,114
Total for week	4,228	4,228
Aggregate for 43 weeks	183,500	183,500
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Great Southern and Western.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Great Western.**

Week ending October 25	1913.	1912.
Passengers, etc.	112,000	112,000
Goods, etc.	161,000	161,000
Total for week	273,000	273,000
Aggregate for 43 weeks	11,645,000	11,645,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Highland.**

Week ending October 25	1913.	1912.
Passengers, etc.	45,459	45,459
Goods, etc.	4,178	4,178
Total for week	49,637	49,637
Aggregate for 43 weeks	2,114,177	2,114,177
Miles open	485	485
Inc. this week	485	485

**Hull and Barnsley.**

Week ending October 25	1913.	1912.
Passengers, etc.	15,643	15,643
Goods, etc.	14,868	14,868
Total for week	30,511	30,511
Aggregate for 43 weeks	1,332,448	1,332,448
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Lancashire and Yorkshire.**

Week ending October 25	1913.	1912.
Passengers, etc.	430,000	430,000
Goods, etc.	72,028	72,028
Total for week	502,028	502,028
Aggregate for 43 weeks	21,500,000	21,500,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**London, Brighton and South Coast.**

Week ending October 25	1913.	1912.
Passengers, etc.	454,445	454,445
Goods, etc.	17,949	17,949
Total for week	472,394	472,394
Aggregate for 43 weeks	20,376,340	20,376,340
Miles open	487	487
Inc. this week	487	487

**London Electric.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,355	114,355
Goods, etc.	2,114	2,114
Total for week	116,469	116,469
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**London and North Western.**

Week ending October 25	1913.	1912.
Passengers, etc.	115,000	115,000
Goods, etc.	181,000	181,000
Total for week	296,000	296,000
Aggregate for 43 weeks	12,584,000	12,584,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**London and South Western.**

Week ending October 25	1913.	1912.
Passengers, etc.	426,300	426,300
Goods, etc.	2,114	2,114
Total for week	428,414	428,414
Aggregate for 43 weeks	18,555,500	18,555,500
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Metropolitan.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Metropolitan District.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Midland.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Midland Great Western of Ireland.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**North British.**

Week ending October 25	1913.	1912.
Passengers, etc.	45,459	45,459
Goods, etc.	4,178	4,178
Total for week	49,637	49,637
Aggregate for 43 weeks	2,114,177	2,114,177
Miles open	485	485
Inc. this week	485	485

**North Eastern.**

Week ending October 25	1913.	1912.
Passengers, etc.	434,558	434,558
Goods, etc.	72,028	72,028
Total for week	506,586	506,586
Aggregate for 43 weeks	21,500,000	21,500,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**North London.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**North Staffordshire.**

Week ending October 25	1913.	1912.
Passengers, etc.	45,459	45,459
Goods, etc.	4,178	4,178
Total for week	49,637	49,637
Aggregate for 43 weeks	2,114,177	2,114,177
Miles open	485	485
Inc. this week	485	485

**Rhymney.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**South Eastern and Chatham.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Taff Vale.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2

**Notes and Particulars.**

Week ending October 25	1913.	1912.
Passengers, etc.	114,225	114,225
Goods, etc.	2,114	2,114
Total for week	116,339	116,339
Aggregate for 43 weeks	5,000,000	5,000,000
Miles open	1,111 1/2	1,111 1/2
Inc. this week	1,111 1/2	1,111 1/2





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Nov. 2, 12, 16, 20, 24, 28, and 30. Dec. 2, 6, 10, 14, 18, 22, 26, 30, and 31.

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**SOUTHAMPTON to CHERBOURG—**Every Tuesday and Thursday, at 11.30 p.m.  
(Last train from Waterloo, 8.45 p.m.)

**Passengers and Merchandise.**

**CHERBOURG to SOUTHAMPTON—**Wednesday and Friday, at 11.30 p.m.  
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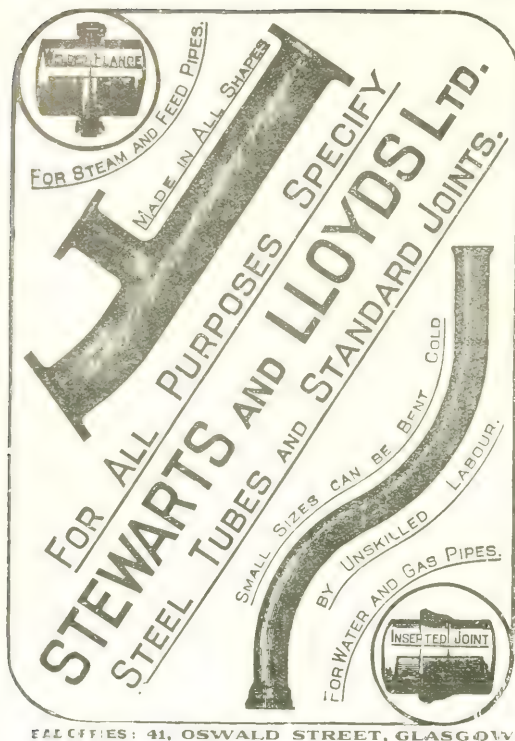
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useful work probably accomplished, if the railway companies in their evidence will keep the enquiry on a high plane, and deal with broad principles rather than matters of detail. If the Commissioners allow their enquiry to be utilised as a means of ventilating supposed grievances it may sit for the next ten years without arriving at any definite conclusion. The Commissioners themselves will no doubt indicate very soon the lines upon which they intend to proceed, but it is obvious that railway directors and officials and others who may be called upon for evidence, can, to a considerable extent, determine the spirit in which the investigation is to be conducted. If, as is generally assumed, the Royal Commission is really intended to decide upon the important question of the State purchase of the railways *versus* private ownership, then it will certainly have plenty to occupy it, without descending to irrelevant details, such as particular rate difficulties, provision of workmen's trains, cheap fares, unpunctuality, delay in delivery of goods, owners' risk, rates, and a hundred other minor details for which proper organisations already exist, not merely for the ventilation of grievances, but for the remedying of any actual evils which may exist.

### VAGARIES IN LONDON TRAFFIC RECEIPTS.

The fluctuations which have taken place during the present year in the traffic receipts as compared with the previous year on the various lines connected with the Underground Electric Railways Company of London, on the London General Omnibus Company (which is associated with the same concern), and on the London County Council Tramways—all of which undertakings compete more or less with each other—make interesting study. To avoid complications, we shall take the figures as they stood at the end of June last and as they stand now. Taking first the Metropolitan District Railway, the receipts for the 26 weeks ended June 28 were £342,656, being an increase of £13,581 as compared with the corresponding half of 1912. For a long time prior to this year the District Railway receipts had continued to go up by about £1,000 per week compared with the previous year, and it will be seen that for the period under notice the increase had dropped to about £500 per week. During the summer and autumn this rate was not maintained, and in some weeks recently there has actually been a decrease. For the week ending November 1, which is the last return, the figure was £13,023, being a decrease of £269. Still, for the 44 weeks ended on the same date the aggregate of £568,537 reveals an increase of £17,602—an average rise of £400 a week, which is not to be despised. Taking the London Electric Railway, the aggregate for the first 26 weeks of the year was £569,280, an increase of £3,295—an average rise of £126 per week. Decreases, however, began to set in about August, and they have been more important than occasional increases. For last week the revenue at £13,690 was a decrease of £440, while the aggregate for the 44 weeks ended on the same date was £567,878, showing a net increase of only £878. The Central London Railway, for the first half of the year, had an aggregate of £133,243, giving the substantial increase of £13,117, or an average of £1478 per week. This arose from the fact that the comparison was with a period before the extension to Liverpool Street was open for traffic. A year, however, as the comparison began to be made with a period in 1912 after the extension was open, decreases began to be recorded, often amounting to several hundred pounds per week. Last week the traffic at £13,690 was a decrease of £440, but the aggregate of the first half of the year is not far from what it was in 1912, and the average is only £1,478 per week, better than for the corresponding period. When we come to the City and South London Railway, however, we have an unrelieved

tale of woe. For the first half of the year the aggregate at £73,983 was down by £7,652, or an average of £294 per week. The progress downward has continued. The figure for last week was £2,666, a decrease of £357, while the aggregate for 44 weeks of £122,340 is down by £11,637, or an average of £264 per week. Thus the amounts of the weekly decreases are slightly diminishing. When we come to the great competitor with the railways, the London General Omnibus Company, the figures are truly remarkable. This is specially so during the first half of the year, when the returns compared with a period when the company had far fewer omnibuses running and worked them on fewer routes. For the first 26 weeks of the year the receipts were £1,575,766, an increase on the corresponding half of 1912 of no less than £362,756, or an average increase per week of £13,952. During the second half of the year the increases have continued, though at a diminishing rate, as the comparison came to be with a more fully developed period last year, and as the number of omnibuses and routes that could profitably be worked came closer to a maximum. In fact, rapid development seems now near an end. Last week the receipts at £58,728 were only £1,729 up. For the 44 weeks the aggregate is £2,736,305, an increase of £496,176, or an average increase per week of £11,276. Last week's increase is the smallest for many a day, but for several months the pace has been slackening. When we come to the London County Council Tramways some surprising facts are presented. Their financial year begins on April 1. In the beginning of July, when 13 weeks of it had expired, the receipts for that period were £563,237, a decrease of £20,293, or an average decrease of £1,561 per week, entirely attributed to motor omnibus competition and a continuation of the decreases of the previous year. But in August the tide began to turn. Fare reductions and return tickets among other things have brought back traffic, and since September steady increases have been shown, sometimes as much as £2,000 per week. For the week ended October 22, the receipts at £43,378 were up by £1,641. The aggregate for 29 weeks ended at the same date was £1,235,505, or a total decrease for the period of only £6,498. If the present increases continue a few weeks will see an aggregate increase. As to the position of the railways it is undoubtedly due in part at least to omnibus competition. The maximum effect of the latter has now practically been reached, so that the railways are likely to show recovery. Moreover, they are being extended and linked together, the City and South London Line is to be improved, and some fares are being reduced. The total number of people travelling continues rapidly to grow and will go on growing. None of the undertakings need despair of the future.

### "SAFETY FIRST."

More than one of the officers of the National Union of Railwaymen in their speeches last Sunday called for consideration to be given to the relationship between speeding-up and the accidents which have occurred this year, and demands were also made in the same connection for an eight-hour day. In using the appellation of speeding-up the critics of the companies apparently would have the public believe that the use of more powerful engines and heavier carriages is a matter of the past year. The march of progress has been especially noticeable during the past twelve years, but were there not accidents just as common before that period? No attempt seems to have been made by the Union at the inquiries to associate the mishaps of this year with the alleged causes that do service on the platform at Sunday meetings. On the other hand the men concerned have unfortunately been shown to have made mistakes. The impetuosity of the

individual and collective accident on railways may be prevented by strict adherence to rules and by adequate recognition of the duty of reporting when materials or supplies are not as they ought to be. The latter matter is one that might be included in the syllabus of the "Safety First" movement. Another desideratum is that men should not be induced to take personal risks for fear of delay bringing censure from their superiors. The companies should lose no time in following the example of the Great Western. Certainly the experience of a number of American railways is such as to induce them to do so. These companies do not rest satisfied with carrying on a propaganda. The Pennsylvania Railroad during August made efficiency tests to ascertain the observance of train safety rules in nearly 185,000 cases relating to signals, flagmen, speed regulations, and the handling of explosives and inflammables. The fact that there were but 79 cases of failure to observe the strict regulations is referred to as satisfactory, but, nevertheless it affords proof that safe working can be secured only by unceasing vigilance.

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways of the United Kingdom for the week ended November 2 gives a total of £2,329,602, which was earned on 21,934 miles, being at the rate of £106 4s. 2d. per mile of line open. For the corresponding week of 1912, the receipts of the same lines amounted to £2,276,586, with 21,857 miles open, or £104 3s. 2d. per mile. Thus there was an increase of £53,016 in the receipts, an increase of 77 in the mileage, and an increase of £2 1s. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £37,768 (or £1 12s. 3d. per mile) in the passenger receipts and an increase of £17,084 (or 11s. 5d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the forty-four weeks in the passenger receipts has been £2,876,724, while the aggregate increase in the goods traffic was £3,987,521. The aggregate receipts of the fifty railways for forty-four weeks (December 29 to November 2) amounted to £103,159,515 in comparison with £96,105,481 last year, an increase of £7,054,034, not including receipts from certain railways.

### Index Numbers of Railway Debentures.

Our Index Numbers for the prices of best debentures of English Railways, based on the average yield obtained from these stocks, are repeated below and brought up to date. The rate of interest is assumed to be 3½ per cent.

Year.	Index.	Month.	Index.
1871	79	End of December	84½
1881	92½	January	84
1891	106	February	81
1900	128	March	81½
1901	110	April	81½
1906	97½	May	81½
1908	95½	June	82½
1909	93	July	81
1910	90	Aug.	81
1911	88	September	81
1912	85	October	81

Trains in Restaurant Cars. The Railway Times has been informed that the following are the rates for the use of the restaurant cars on the Great Western Railway:

## MONEY AND STOCK MARKETS.

STANDARD TIME.

Commodity.	Nov. 7.	Nov. 8.	Pay Day.
Mines.	General	Nov. 7.	Nov. 7.
General	Nov. 7.	Nov. 7.	Nov. 7.
Mines.	Nov. 7.	Nov. 7.	Nov. 7.
General	Nov. 7.	Nov. 7.	Nov. 7.
Mines.	Nov. 7.	Nov. 7.	Nov. 7.
General	Nov. 7.	Nov. 7.	Nov. 7.

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

Bank's Coin and Bullion	Nov. 7.	Nov. 8.	Nov. 7, 1912.
Total Reserve	£2,272,287	£2,272,287	£2,272,287
Proportion of Reserve to Liabilities	54.45 p.c.	54.45 p.c.	54.45 p.c.
Notes in Circulation	£2,728,220	£2,728,220	£2,728,220
Bank Rate	5 p.c.	5 p.c.	5 p.c.
Open Market Discount	1½ p.c.	1½ p.c.	1½ p.c.
Bankers' Clearing House	£1,288,220	£1,288,220	£1,288,220
Silver bars, per oz. (spot)	27½d.	27½d.	27½d.
Consols (account)	104	104	104
French 3 per cent. (acc.)	84	84	84
Paris Cheque exchange	21½	21½	21½
New York 60 days bill	\$4.80½	\$4.80½	\$4.81½
Rio de Janeiro exchange	110	110	110
Valparaiso 90-day exch'e	110	110	110
Calcutta transfers	Holiday	Holiday	Holiday
Hong Kong transfers	110	110	110
Shanghai transfers	28.8½d.	28.8½d.	28.8½d.

Nothing disclosed by the Bank Return this week indicates any alteration in the tendencies evident during the past few weeks. Only £61,000 was received on balance from abroad. It is believed in some quarters that the Egyptian demand is now satisfied, and withdrawals for the United States will not be repeated. In that case the resources of the Bank may be reinforced, which would be a most desirable factor for the money market during the tightness that always reigns towards the end of the year. Meanwhile the internal requirements of the country took £680,000 in coin and only £11,000 in notes, so that the Reserve was down by £632,000. Public Deposits declined £1,582,000, and Private Deposits improved by £1,339,000 owing to £415,000 being borrowed from the Bank, as is indicated by a rise of that amount in Other Securities. But there were £3,000,000 in Treasury bills to be paid for on Friday. What proportion of these was taken by Government Departments was not accurately known, and the ultimate effect of this operation is yet to be seen. As the result of all changes the Ratio of Reserve to the liabilities of the Bank is just over a point lower at 54.45 per cent. So the position is strong enough as far as the country is concerned, especially as it is confirmed from several official quarters that substantial reserves in bullion have been accumulated individually by the joint stock banks. Rates of discount have kept up in spite of considerable repayments to the Bank on Thursday, the three month bill hugs the official minimum rate of interest with exemplary closeness, and the rate for six months





## THE CONCILIATION SCHEME.

For some time past there has been much speculation as to the course events are likely to take in regard to the Conciliation Scheme, notice to terminate or revise which may now be given at any time. In respect of their influence on one side it is known to be desired by a majority of its members, the National Union of Railwaymen have decided to advise the various boards to give notice to terminate the arrangement. The provisions of the scheme are that it shall remain in operation until November 6, 1914, and thereafter be subject to revision or determination, as regards any company, by twelve months' notice given by the company or by a majority of the aggregate representatives of employees on all the conciliation boards for the company's system. The earliest date on which notice might be given was the 6th instant.

We understand that, in its assumed capacity of adviser on conciliation board matters, the National Union have decided to advise the men's side of the various boards to give notice to the railway companies of their intention to terminate the present scheme, and so enable the Executive Committee later to enter on negotiations with the railway companies with a view to submitting an amended scheme. December 1 next has been selected as the date on which the notices shall be served, in order that the whole of the boards may cease to exist on the same date. Presumably this advice will be followed, and therefore it appears certain that the railways are about to enter upon a year in which there will be a repetition of demands for a widening of the scope of the conciliation scheme such as have been put forward in the past. It may be taken for granted that the recognition of the Union will be a prominent, probably a pre-eminent demand; while there are also indications that effort will be made to bring under the boards many grades other than those "concerned in the manipulation of traffic," which is the present basis. It is said that questions of management and discipline will also be pressed, notably the matter of appeals against punishment; while the National Union of Railwaymen's ideal of a single composite board for each railway, as distinct from sectional boards, will be again brought forward.

On all these matters the railways have a strong case; but we would impress upon them the desirability of being prepared to put it forward in the best possible manner. Above all, we would urge the advisability of paying attention to what is known as public opinion. Judging by the almost daily references in the Press to the views of this or that labour leader and to the National Union of Railwaymen it would appear that the men's representatives have an efficient publicity department and much belief in its efficiency. In these times the railway companies cannot afford to adopt a different attitude; and given suitable organisation they should be able to lead the way in this respect. The public desire to know the objections to recognition, the conditions under which railwaymen work, the system by which discipline is maintained, and a hundred and one matters which have hitherto been regarded as domestic and private to the companies. *Tempora mutantur*, and railways must be abreast of the times in publicity designed to educate the public and to secure the support of public opinion. This is pre-eminently the case in so far as labour matters are concerned, but it also applies to all subjects of public criticism, especially to such as may form the basis of reference to the recent appointed Royal Commission.

We accept the position that the Conciliation scheme will be revised, but how and between whom the negotiations will be carried on we do not yet know. As to the necessity for revision we have our own opinion, for we hold that the present scheme has worked well and has generally been satisfactory to all parties. Proof of this was recently given by the Board of Trade in an official publication

which recorded that there had been no fewer than 219 settlements under the scheme, affecting many thousands of railwaymen. Of these 107 were effected in the first stage of the negotiations, viz., by agreement between deputations representative of the employees and the companies. Ninety-three were effected at the second stage, viz., by agreement between the two sides of conciliation boards; four were the result of agreement between the two sides of conciliation boards after an independent chairman had been called in to mediate; and only 15 out of the total of 219 were made at the final stage of the proceedings, viz., by the decision of an independent chairman. Facts like these demonstrate that, despite what is sometimes said to the contrary, the present scheme has worked well and it is facts of this nature that railway companies must take steps to bring to the notice of the general public. The companies have a good case: it is "up to them" to make it known.

## GREAT CENTRAL AND MIDLAND RUNNING POWERS DISPUTE.

The Lord Chief Justice, Lord Hewart, at Aldershot, yesterday gave judgment in the appeal of the Great Central Railway Company against the Midland Railway Company.

The Great Central Company asked for a declaration that it was entitled to exercise running powers for all its traffic over the Mansfield and Worksop line of the Midland Railway and for that purpose to run on and off the line by way of Shirebrook Junction. The matters in dispute arose out of the amalgamation with the Great Central Company, in 1906, of the Lancashire, Derbyshire, and East Coast Railway Company. Prior to the amalgamation, the Great Central had had no right of access at all, but the Derbyshire Company had had such right of access in respect of a special and limited class of traffic only—viz., traffic to and from the Shirebrook Colliery. The present claim by the Great Central was allowed by Mr. Justice Neville, but negatived by the Court of Appeal, and the claim was that by virtue of the amalgamation the Great Central Company had become entitled to use this means of access for all descriptions of traffic.

Sir A. Cripps, for the Great Central, asked for running powers, and Mr. Upjohn, for the Midland Company, urged that "facilities only" should be granted. The Midland Company maintained that the Great Central Company had only the restricted running powers acquired by their amalgamation with the Derbyshire Company, and were not entitled to exercise general running powers over their system.

Their lordships unanimously dismissed the Great Central Company's appeal, deciding that they had no greater powers than those possessed by the Derbyshire Company who became amalgamated with them.

## SHROPSHIRE COMPANY'S RUNNING POWERS.

The Western Railway Company, the Great Western Railway Company and the Cambrian Railway Company, exercise running powers over the railways of those companies. There was no inconsistency between Sections 28 and 4, and the words, "but not otherwise," were not introduced with the view of cutting down the powers conferred by the earlier sections of the Act.

Lord Sumner and Mr. Justice Warrington concurred and the appeal was allowed, a declaration being made that notwithstanding anything in Section 28, plaintiffs were entitled to exercise the running powers claimed.



INDIAN RAILWAY BOARD CONFERENCE.

and company's engineer. He has set out all his line, bridges, himself responsible for all sums of money deposited in his safe thing to build and finish off his sub-division. For construction of line, with assistant engineers under him in charge of 20 miles. There is no more absorbing or interesting work than that of an assistant engineer on construction work in India. Every moment of his time is taken up by his work. He is creating something to last and is watching it grow day by day. The engineers' work on open lines is not so varied. His

his little bungalow is situated at a station about the centre of his length. He will have two or three inspectors of maintenance under him, who have been trained up to permanent way maintenance. Once a month the assistant engineer trolleys through his sub-division, paying wages to the permanent gangs. The gang usually consists of about 8 men for about three miles of single track, the men being obtained from villages close to the line; but at harvesting seasons many of these disappear from work, to return when they see fit. They are agriculturists first and anything else afterwards.

The mechanical engineering of Indian railways is very efficient, and the officers, foremen and drivers are invariably recruited from England. On some of the railways the locomotive and carriage and wagon branches are separate departments. When this is not the case the chief mechanical engineer is the head of the department, with two deputies under him, one for running work and the other for workshops. Locomotives and

from Great Britain, but the local workshops are equipped to carry out all kinds of repairs and could manufacture if it was considered economical and advisable. But with eminent consulting engineers for the railways in Westminster who are in close touch with the English manufacturers there are obvious advantages in adhering to the existing practice. For a constantly growing railway, finality cannot be looked for and workshops must grow and extend. Those of the Bengal and Nagpur Railway, for instance, were commenced about 11 years ago, and are not yet finished. They provide for extension as required from time to time. The power is electricity generated by steam, no water power being available, and coal being cheap. The skilled labour employed is practically all native, but there is a large staff of European foremen and charge hands to supervise. The Indian artisan class under good training develop a high standard of skill, but require detailed supervision.

In conclusion, the writer expressed the hope that some of the young men in his audience would seek for railway work in India. It was a country offering good careers, in which work was full of interest, and which always maintained its attraction for those who once lived in it.

The CHAIRMAN, in proposing a hearty vote of thanks to the lecturer, observed that although the lecturer showed a great deal had been accomplished since his own career in India, he still held that any young man seeking fame as a railway engineer must be prepared to combat for existence against flood and tempest. Referring to the great pilgrim traffic, he remarked that it used to take an earnest native three years to discharge his religious obligations, but thanks to the improved railway facilities three days was now almost a sufficient period, notwithstanding the great increase in the number of pilgrims. The manner in which the railways provided food and sanitation for the pilgrims was a notable achievement. Besides their strategical value for the defence of India, the railways now averted famine.

upon the railways of any country simply from statistics, without knowing anything of the characteristics of a country.

Additional Road Motors on the North Western Railway. An order has been placed for a dozen 25-cwt. van chassis by the London and North Western Railway Company with the Albion Motor Company, for the extension of the collection and delivery of merchandise.

question of the regulations for the interchange of rolling broad-gauge railways and such metre-gauge railways as old rules with certain slight modifications. In his closing address he said he was sorry that the present session had not seen the realisation of his hopes in regard to the rules for the interchange of rolling stock. It was unfortunate they had not been able to arrive at some degree of permanency. Referring to the matter of the transfer of the headquarters, he felt confident, if sanction was obtained to the proposal, their business would be much facilitated and their association, far from being, as a delegate feared, a sort of waste-paper basket into which the Railway Board would place all sorts of minor questions for consideration, would be enhanced in importance.

Both the opening and closing addresses of the presidents at these conferences from year to year had to be confined to ordinary matters of business, and in consequence could not be wildly exciting. It, however, it was permissible to extend the range of the president's remarks and to allow him to include general matters of railway working and policy and other questions in connection with which the public were deeply interested, including finance and control, he felt sure the addresses in addition to being of interest would be instructive and valuable. The presidents in the past had been men of long experience, and it was, he thought, a pity they had been allowed to pass through their period of office without leaving on record their views on the general policy and work

NEW STEAMER FOR THE GREAT CENTRAL RAILWAY.

A finely-modelled steel screw steamer was launched from the Neptune Works, Newcastle-on-Tyne, of Swan, Hunter, and Wigham Richardson, Ltd., on October 30, for the Great Central Railway Company's service between Grimsby and Rotterdam. The vessel is intended for the carriage of cargo and horses, and she will also have accommodation for a limited number of passengers in a long house amidships. She is 250 ft. in length by 34 ft. beam; will carry about 1,100 tons of cargo on a light draft of water, and is being built to attain the highest class in Lloyd's Register. The propelling machinery is also being constructed at the Neptune Works, and consists of a set of triple expansion engines supplied with steam by two large boilers. These engines and boilers are expected to drive the vessel at a speed of 13 knots when fully loaded. The auxiliary machinery includes steam windlass, steam winches, and steam steering gear all connected by means of a telemotor with a hand-wheel on the bridge.

As the vessel left the ways she was named the *Chester*, the naming ceremony being performed by Mrs. Clear in the presence of a goodly company of spectators, including Mr. Clear, assistant general manager, and Captain Barwick, marine superintendent to the Great Central Railway Company. Mr. Jas. A. Rodger, the company's superintendent marine engineer, under whose supervision the vessel is being built, was unfortunately prevented from being present through ill-health.

RAILWAYS ROYAL COMMISSION.

The Commission appointed, under the Chairmanship of Lord Loreburn, to inquire into the relationship between the

of matters other than safety of working and conditions of employment, will hold their first meeting for the purpose of hearing evidence on Friday, November 14, at Winchester House, St. James's Square, S.W., at 10.30 a.m.

This meeting will be open to the public, but no decision has been arrived at on the question whether this is to be the rule during the remainder of the proceedings. There will probably be only two sittings a week. The first witness will probably be Mr. W. F. Marwood, assistant secretary to the Railway





may have been too quick; it may have been quicker than it was prudent. You may say so, but I do not think the Argentines will complain of that. I think it is something to point out that during the few years we have been connected with this railway it has grown from 400 to 3,400 miles.

If you turn to the report you will see that the general manager complains that in the beginning of the year the Central Northern Railway, which is a Government line in connection with the Cordova Central Railway, made determined efforts to

by its longer route, offering traders a fast train service at rates lower than the regulation tariff. Last session the National Congress instructed the Executive power to commence the building of an extension to Mendoza of the State line now in operation from Santa Fe to San Juan. That would be in direct competition with our line. On that I would point out that the Argentine Great Western Line was built by the Argentine Government itself. That line from San Juan to Mendoza—the existing line—was built by the Argentine Government and sold to an English company, and we work it on behalf of that English company. There is no statement that we cannot do the work. The line is in a position to carry very much more traffic than it receives to-day, and yet it is a line which the members of the Argentine Congress have asked the National Government to parallel with a line of their own. Some years ago, when I was in Argentina, I was talking to a very distinguished Argentine about the Pacific, and he said: "I should

dividend, because if you had to you would have to stop your great capital outlay." That is the position we have got to today. After all, in dealing with the Argentines, I know whom I am dealing with. You are dealing not with any little hole-and-corner country; you are dealing with the representatives of a great people, and I wish to put this fairly and squarely before them. Considering the position and the facts which I have just narrated to you—facts which are beyond contradiction—is this proposed competition a just one? (Cries of "No.") I put them a second question? Even if you think the competition a just one, is the present moment, in the circumstances, a fair one in which to start it? I put in all seriousness those two questions. There is one other matter of a somewhat

should like to say a word.

There is a Bill before the Argentine Congress at the present moment which proposes to institute railway pensions. It proposes that the workmen should have 3 per cent. deducted from their wages to go to the pension fund. It proposes, secondly, that the companies should pay 3 per cent. on their wage bill to the fund; and it also proposes that an extra tariff of 3 per cent. should be put on all goods and parcel rates, and that that sum, whatever it produces, should also go to the pension fund.

Mr. SNOO: The Government giving nothing.

his raising of the rates is their contribution. It is not law. These are the proposals as I understand them. I mean when I am interpreting a proposal on this side which is not yet law in another country, I can only put it to you guardedly as I understand it. Now, I should like to say this—that by the Mitre Law—a law which was passed some years ago—it was settled exactly what taxes the railways should pay to the Government for a term of years, and this charge on us is in

ult for us to reckon quite what the charge would come to, because until you actually see the law an accomplished fact, and go into it clause by clause, you do not know for certain exactly what classes of labour come under the law; but, as far as we are able to make it out, that law would be a charge

per cent. per annum on our share capital. Now, I should like to point this out: A year or two ago, as you know, there was trouble on the English railways; there was a bad strike,

under which workmen got higher wages, and to compensate, or partially compensate, the companies for their extra expense in this direction, the Government brought a Bill in Parliament which enabled the railways to raise their rates, so as to receive compensation for what they were paying out.

question of our rates. The other day I noticed that the chairman of another Argentine railway, who is a great authority

were on the private-owned railways in any other country in the world, except North America. He pointed out that in North

that the railways generally were making efforts to raise them; but he did not point out one important thing which he might have done, and that was this. In North America the railway has at its door everything it wants; it has its material, its coal, and its iron. In Argentina everything we want particularly

mous expense. You could never run railways in Argentina as cheaply as you can run them in North America for that simple reason. Therefore, when we come, as we must come, to consider in what directions we may raise our rates—speaking generally, the raising of railway rates is not a popular thing—I do hope in Argentina, considering the circumstances in which we come to consider the matter, our action will not be viewed with an entire lack of sympathy. I have been often in Argentina; I have had much to do with Argentina; nobody has been better treated or had greater kindnesses personally; nobody has a greater regard for the people, and I have always told you on every previous occasion that I have got up to address you that our railways have always been well treated by the Government. We have always in the past had not only bare justice; we have had even, I think, a fair measure of sympathy. (Hear, hear.) I think I can ask them to-day to reconsider these cases that I have been submitting to you. I want them to reconsider them, and if they will only give their consideration to them I shall not be afraid of their action, because nobody knows better than I do that when you are submitting a case to the fair, impartial judgment of the leading men in the Argentine Republic, you are submitting it to gentlemen with the very highest sense of justice and of honour. (Applause.)

Mr. SWINBURNE asked whether a broad gauge line had any petition.

Mr. FENNELL asked why the board were taking powers to work a section of the Argentine Great Western line when a portion of it was already built.

Mr. SNOO deprecated the raising of further capital, and suggested that if the Argentine Government compelled the company to find 3 per cent. to meet advances in the employees' wages, the board should raise the charges made for the carriage of passengers and goods to meet the additional impost.

Mr. HEDGES expressed satisfaction at the lucid and detailed statement laid before the meeting by the Chairman, and said he was perfectly satisfied that the directors were doing their best for the shareholders' interests. They had a strong man at the head of affairs, and he had absolute confidence in the directors, who would no doubt do their best to circumvent the scheme which was now being put forward by the Argentine Government.

Mr. FENNELL said the board had taken credit for having gone slowly in their policy of extension, but, in his opinion, they

acted unfairly towards the company, he thought it would be wise not to proceed with the extensions which had been approved.

The CHAIRMAN, in reply, said it was announced in the report that the board were stopping all capital expenditure as far as possible, and he did not think they could go slower than that. He was much obliged to Mr. HEDGES for his support of the board's policy. The Argentine Great Western line was built by the Argentine Great Western Company, and it was for this company to say whether they would work it. That was the simple matter for consideration. As to whether the broad gauge had a great pull over the narrow gauge, there could be

the latter, but the narrow gauge could do damage to its rights.

redeemed, but, apart from that, he did not think they would have to make any public issue of capital during the current financial year, unless something unforeseen occurred.

The resolution was then put and carried unanimously.

line, and running approximately about fifteen miles in a south-westerly direction to the River Atuel.

The retiring directors and auditors were re-elected, and the proceedings terminated with a vote of thanks to the chairman and directors for their past services.

Now I just want to say this. We shall have to consider the





he said: "In almost every case conditions of cereal crops which division than last year, but rain is required there." Unfortunately rain is still required in the southern portion of the ably. I will ask Mr. Norman to second the resolution.

Mr. FARQUHARSON said he had noticed in the report that the company took credit in the accounts for rolling-stock which had been withdrawn from service.

The CHAIRMAN: It is the original cost of the rolling-stock, P capital account remains good. When rolling-stock is worn out it is written off and replaced, and the capital account is made good.

Mr. FARQUHARSON said he did not see how the writing off of old rolling-stock could be taken as a credit.

The CHAIRMAN: But it is the capital account which gets the credit. It is written off revenue.

The resolution was carried unanimously.

On the motion of Mr. J. A. GORDGE, seconded by Mr. F. O. SMITHERS, Lord St. Davids was re-elected a director; and on the proposition of the CHAIRMAN, seconded by Mr. MARCUS VAN RAALTE, Mr. P. P. Mosley was re-elected to a seat on the board.

Mr. HAMPTON proposed the re-appointment of the auditors, Messrs. Turquand, Youngs and Co., at a fee of 50 guineas.

Mr. NORMAN seconded the proposal, and on the motion of Mr. G. SHEPHERD, seconded by Mr. FARQUHARSON, a vote of thanks was accorded to the chairman.

## ARGENTINE GREAT WESTERN RAILWAY.

the Palmira to North branch: £61,515 on the Lujan to San Toay branch: £12,875 on the San Juan loop line; on the San Juan to Marquesado branch: £26,074 on the Monte Coman to San Rafael branch: £34,220 on the Monte Coman to Villa Atuel branch: £36,804 on the

first debenture stock, £1,700,000; second debenture stock, £1,700,000; 5 per cent. debenture stock, £3,000,000; 5 per

from the Buenos Ayres and Pacific Railway Company and has

and interim dividend on preferred and ordinary stocks, £106,250. The Buenos Ayres and Pacific Railway Company, having paid 5 per cent. for the year ended June 30 last on its first and second preference stocks has, in accordance with the

dividend of  $\frac{1}{2}$  per cent. on the preferred and ordinary stocks,

£1,185,457 in the preceding year, showing an increase of

The number of passengers carried during the year was

against 877.

during the year viz., Monte Coman and San Rafael circuit

branch line, about 15 miles in length from Monte Coman, running in a south-westerly direction to the River Atuel. Dr.

## ENTRE RIOS RAILWAY.

cent. debentures, £700,000; and 5 per cent. consolidated debenture stock, £665,760. The expenditure during the

The results of the working of the railway for the year ended June 30, 1913, as compared with the year ended June 30, 1912, are as follow:

To the balance of £205,290 must be added transfer fees, etc., £220; profit on land sales, £1,003; subvention account, £2,500; and amount received from the Argentine Railway Company in respect of guarantee under working agreement.

ended June 30, 1913, on £1,505,000 4 per cent. debenture stock, £50,636; interest paid and accrued during the year ended June 30, 1913, on £700,000 5 per cent. debentures, £35,000; interest paid and accrued to June 30, 1913, on £750,000 5 per cent. consolidated debenture stock, £9,788; interim dividends on first preference stock at  $\frac{1}{2}$  per cent., and on second preference stock at 2 per cent., £64,681; interest, discount, etc., £12,888; exchange account, £9; balance of renewal and abnormal flood expenditure, £60,008; together £272,010. There remains a disposable balance of £64,681, which is equivalent to the final dividends of  $\frac{1}{2}$  per cent. on the first preference stock making 5 per cent. for the year, and 2 per cent. on the second preference stock making 4 per cent. for the year now recommended by the directors. With the payment of the dividend on the 4 per cent. second preference stock now recommended such dividend will have been paid in full for the third consecutive year, and therefore the 5 per cent. first preference stock will regain cumulative dividend rights as from July 1, 1913, in accordance with the scheme of arrangement sanctioned by the stockholders in 1905.

The number of passengers carried was 423,204 (against 582,075); the total number of animals carried was 508,401 (against 510,973); ratio of working expenses to receipts, 56.50 per cent. (against 61.83 per cent.); number of train miles, 1,010,924 (against 770,331); receipts per train 6s. 10d. (against 7s. 7d.).

To supply the funds necessary for the increase of rolling stock, for capital works and for the general purposes of the company, £200,000 4 per cent. debenture stock and £750,000 5 per cent. consolidated debenture stock have been issued during the year under review. On the resumption of the through service between Entre Rios and Buenos Ayres in September, 1912, which had been temporarily suspended owing to the damage caused by abnormal and disastrous floods, the marked increase in receipts which was experienced when the connection was first established has been again resumed. Exceptional expenditure occasioned by the heavy floods was placed in suspense. The whole of this expenditure

expenditure on renewals has been written off before the year at the amount due from the Argentine Railway Company.

spread over several years, but it was considered advisable

main line for the rapid transit of through traffic between company's system. Under the working agreement the

the company's proportion of future surplus revenue remaining after providing for dividends on the ordinary stock at rates set out in the working agreement.



working expenses was £1,000,000. The directors of the company have been successful in their efforts to reduce the cost of the company's operations, and they have been able to do so without any loss of efficiency. They have made good progress with their preparations for the extended use of oil fuel; two large tanks capable of storing 2,000 tons of oil have been sent out in the early part of the year, and were now erected and connected with the necessary pipe lines. The nitrate oficinas were also gradually adopting oil fuel for their requirements in place of coal, and they had made suitable arrangements to deal with that new traffic. Their water supply had been carefully attended to and was satisfactory. Their arrangements for dealing with any further developments when they arose. The nitrate companies generally had had a satisfactory year, and although some temporary restrictions in their production became advisable, they did not think those would have any serious effect on their traffic; and they were able to look forward hopefully to the results of the present year's working. The directors of the company have decided to pay a dividend for the year, was adopted.

**Villa Maria and Rufuho Railway.**—At the twenty-fifth ordinary meeting of the directors of the company, held on November 1, 1913, at the offices of the company, Lord St. Davids presided and moved the adoption of the directors' report for the year ended on September 30, 1913. The report was adopted.

**Midland Uruguay Railway.**—At the twenty-fifth ordinary meeting of the directors of the company, held on November 1, 1913, at the offices of the company, Sir W. Lawrence presided and moved the adoption of the directors' report for the year ended on September 30, 1913. The report was adopted. At the present time Uruguay, like most countries in South America, had been affected by the prevailing monetary stringency, which during the first four months of the financial year adversely influenced the traffic of the railways. At the same time, before the end of June next, this would be normalised. It was anticipated that the cattle traffic would be heavier than last year. More interest was being taken in agriculture, which was a good sign, especially on their new extension to Fray Bentos, so that their revenue from crops should tend to increase. Encouraged by the results obtained last year, they had again improved the passenger traffic arrangements, and it was believed that this would lead to a further augmentation of this traffic. Arrangements were now being made with Lamport and Holt for a regular monthly service of steamers would take the company's coal and stores at economical rates, and would be available for return cargo, which should lead to increased traffic over the line and make Fray Bentos a recognised ocean port. The report was adopted.

**The Colombia Fusion.**—For the purpose of carrying out the arrangement between the Cartagena (Colombia) Railway and the Colombia Navigation Company general meetings of the holders of first mortgage debentures of both companies were held on Wednesday in Winchester House, E.C., to approve two members of the board of directors of the amalgamated company. Mr. A. F. Whinney, as representing the trustees to the debenture holders, who presided at the meeting of the Navigation Company, explained that the scheme received the sanction of the Judge before the Long Vacation. The decision, however, was the subject of an appeal, and steps were being taken to expedite it. That meeting did not, in fact, appoint directors, but nominated them, the machinery supplied by the scheme completing the appointment. Mr. A. H. S. Marks and Mr. H. W. E. Storey were nominated, and there was no opposition. At the meeting of the Cartagena (Colombia) Railway Company, Mr. Whinney, the chairman, again explained the object of the gathering. Mr. W. S. Poole urged that a gentleman with close knowledge of transport working in South America should be added to the new board as chairman. He had approached a gentleman with such qualifications, and that gentleman was willing to act. The name could not be disclosed at the moment. He also advocated the appointment of a fresh trustee. Further, he held strongly that the prior lien money was raised for the purpose of developing the enterprise, and if that money were used it should be utilised as salvage money. He would like to throw out a hint to the effect that the Court of Appeal might be spared the trouble of dealing with the scheme on Monday next if before that day some arrangement could be made on the lines he had suggested. The chairman said that he was sure that it would be the general desire of the meeting to fall in with the views stated, and thus dispose of the matters in dispute. Messrs. Julian H. Simon, Paul Speak, Lovegrove and Busby were then nominated

of hands, and at the poll which followed the result was as follows:—Mr. Simon, 10; Mr. Speak, 10; Mr. Lovegrove, 10; Mr. Busby, 10. The two were thus nominated.

## DIVIDEND ANNOUNCEMENTS.

The directors of the company have decided to pay a dividend for the year, was adopted. The directors propose, in addition to the half-year's guaranteed interest of £1 10s. per cent., an interim dividend of 10s. per cent. in respect of the profits for the year 1913-14.

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## GREAT CENTRAL CLERKS' PENSION LITIGATION.

The Court of Appeal (Lords Justices Vaughan Williams, Buckley, and Kennedy) on Wednesday began the hearing of an appeal against a decision of Mr. Justice Scrutton in a dispute between W. H. T. Porter, a goods clerk at the New Holland Station of the Great Central Railway Company, and Sir Edward H. Fraser and other members of the Administrative Committee of a Clerks' Pension Fund.

During the coal strike the railway company gave notice determining the employment of all its clerks, and the question was whether in those circumstances the pensions became payable. Porter made a claim, which, being denied, went to arbitration. Mr. A. Moon, the arbitrator, found the facts in favour of Porter, and stated a special case, which came before Mr. Justice Scrutton, who affirmed the opinion of the arbitrator that the pension was payable. Against that decision certain members of the Pension Fund Committee now appealed. The questions raised by the appeal were (1) whether Porter was ever removed at all within the meaning of the rules, and (2) if he was, did he, by reason of the fact of his having re-entered the company's service, waive his right to the pension.

Mr. Sankey said that the appeal had been expedited by the Court because it affected a great number of men in the employment of the company. In February, 1912, in consequence of the great coal strike, the company gave notice that in future there would be day to day contracts. There was no question of altering the class of the servants, and as a matter of fact the respondent, Porter, continued in their service, and remained in the same class. Porter claimed his pension on the ground that he had been dismissed from the service of the company within the meaning of the Act.

Mr. Peterson said that before they considered the question of the removal of Porter, he had to submit that Mr. Sankey could not deal with that point, because before the arbitrator Mr. B. Ward admitted the man was removed, and the arbitration proceeded on that basis.

Mr. Sankey said his contention was that Porter never had his class altered, and neither in law nor in fact had he been removed by the directors of the company from their service.

Mr. Sankey: Yes.

As there was a difference of opinion between counsel as to what took place before the arbitrator it was agreed they should consider whether they would argue the appeal on the special case stated as a representative case, or whether the special case should be sent back to the arbitrator to be amended.



## NON-STOP TRAINS ON THE METROPOLITAN.

A *Congreso de Ministros* held on Monday under the presidency of Dr. De la Plaza (the vice-president), the question of the 4,000 kilometre railway scheme projected by the Province of Buenos Ayres was discussed. The Minister of Public Works states that the Council decided to enter into communication with the Government of the province, with a view to reaching a conciliatory solution of the question that would prevent any injury to the interests of the privately-owned railways. The Minister will also shortly lay before Congress a Bill, the object of which is to provide measures by which similar conflicts may be avoided in the future.

The following new works are about to be carried out on the Great Western Railway :—

1. The authors of the paper have not provided any evidence to support the claim that the proposed model is superior to existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its superiority.

2. The authors have not provided any evidence to support the claim that the proposed model is more accurate than existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its accuracy.

3. The authors have not provided any evidence to support the claim that the proposed model is more robust than existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its robustness.

4. The authors have not provided any evidence to support the claim that the proposed model is more efficient than existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its efficiency.

5. The authors have not provided any evidence to support the claim that the proposed model is more scalable than existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its scalability.

6. The authors have not provided any evidence to support the claim that the proposed model is more generalizable than existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its generalizability.

7. The authors have not provided any evidence to support the claim that the proposed model is more interpretable than existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its interpretability.

8. The authors have not provided any evidence to support the claim that the proposed model is more reliable than existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its reliability.

9. The authors have not provided any evidence to support the claim that the proposed model is more secure than existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its security.

10. The authors have not provided any evidence to support the claim that the proposed model is more user-friendly than existing models. The authors have only provided a theoretical argument for the proposed model, which is not sufficient to establish its user-friendliness.

A contract has been placed with Ciffin and Co., 25, Craven Street, Strand, for a widening on the Shrewsbury and Hereford railway. Babcock and Wilcox, Ltd., have supplied two 2-ton electric travelling cranes for Halesowen goods

The Midland Railway Company, we are officially informed, is about to experiment with the Railophone system of train control invented by Mr. Hans von Kramer. A demonstration of this wireless installation was given in July, 1910, on the London and Brighton Railway between Horley and Three Bridges, and in April, 1911, on a section of the Stratford-on-Avon and Midland Junction Railway. It is claimed for this system that no matter what the speed of the trains may be, messages can be transmitted and received with the utmost ease and accuracy, and, further, that trains can be actually controlled, if necessary, from the signal box. The invention is in the hands of the International Railophones, Ltd.

At Nottinghamshire Assizes there was concluded, on October 17, the four days' hearing of the appeal of the Great Northern and Great Eastern Joint Committee against the assessment for rating purposes of their property in the parish of Beckingham. The appellants objected to the assessment in fifteen of the sixteen parishes in the Gainsborough Union, and Beckingham was taken as a typical parish. The line in it was one mile 28 chains, and in the Union 17 miles 20 chains. There were seven stations. The line was rated at £13,710, and the stations at £1,612. The present rates had existed since 1896, and it was contended that owing to the changed circumstances the figures were now no longer applicable. It was contended that the Joint Committee was an integral part of both the Great Northern and Great Eastern systems. The case for the respondents was that the line was a separate and distinct undertaking. The Court decided that the joint railway must be considered as a separate entity, and that being so the Court was not in a position to say that the appellants were entitled to a reduction of the assessment. They therefore confirmed the existing assessment, but were willing to state a case for appeal. If on the hearing of such appeal it was decided that the appellants were right the assessment of 1902 should be reduced to 1692. Mr. Balfour Browne gave formal notice of appeal, and the Court intimated that each side must pay its own costs.

Still further improvements in the tram service of the Great Northern and City section are announced by the Metropolitan Railway Company to come into operation on and from November 10. In addition to reducing the time occupied to 9½ minutes between Finsbury Park and Moorgate in the morning and between Moorgate and Finsbury Park to 10 minutes in the evening, the company intend to institute a service of non-stop trains. Between 8.20 and 9.45 in the morning every other train will be run fast, calling only at Highbury and Old Street, with a similar service in the evening between 5.20 and 7 p.m. This will constitute the fastest service between Finsbury Park and the City, completing the journey in 9½ minutes. The service throughout the day will be accelerated, and the times occupied on the journey, Finsbury Park to Moorgate 10½ minutes, and from Moorgate to Finsbury Park 11 minutes. During the slackest period of the day trains will run to and from the City every 4 minutes. During the busy evening traffic from 5.20 to 7 p.m., trains will leave Moorgate every 2½ minutes, alternate trains being fast, stopping at Old Street and Highbury only.

**Mr. Ralph Brocklebank**, of Haughton Hall, Banbury, a director of the London and North Western Railway Company, sustained a fall while out with the Cheshire Hounds last week. He has made a rapid recovery.

**Sir Guy Granet**, general manager of the Midland Railway Company, was on Wednesday, at the Railway Clearing House, unanimously elected chairman of the General Managers' Conference for the ensuing year.

**Dr. J. Frias**, chairman of the local committee of the Central Argentine Railway, and Mr. R. N. Mackenzie, traffic manager, have returned to Buenos Ayres from Europe. Mr. R. Reynolds, the chief engineer, has left for Europe.

**Mr. Charles Poston**, deputy-chairman of the Hull and Barnsley Railway Company, and a director of the North British Railway Company, left estate of the gross value of £5,000,000, of which the net personalty has been sworn at £20,556.

**Mr. William Roberts**, for fifteen years engineer-in-chief of the Highland Railway, will retire at the end of the year on account of his reaching the age limit. He will be succeeded by Mr. Alex. Newlands, his principal assistant throughout.

**Mr. Edward Wells**, formerly a member of the firm of Crane, Jackson, Jeffries, Wells and Company, chartered accountants, Coleman Street, E.C., has been appointed joint chief accountant to the Great Western Railway Company with Mr. G. J. Whitelaw.

**Mr. P. E. Harbron**, of the South Western Railway Company's chief accountant's office, has resigned to take up an appointment with the Japanese Explosive Company, at Hiratsuka. He has been presented with a silver cigarette case as a souvenir of his stay at Waterloo Station.

Mr. W. Emerson has received from the officers and staff of the Great Northern Railway locomotive department at Peterborough a mahogany bookcase, with engraved silver plate, as a memento of his removal to Gratham to take up the duties of district locomotive superintendent.

Mr. L. W. Barrow, superintendent of the Argentine and Brazil Railway Company, has arrived in Buenos Aires, accompanied by Messrs. A. and E. Rothschild, and by Mr. Gordon Smith, of the banking firm of Speyer Bros. They travelled overland, via San Paulo, entering Argentina by P. & O. de los Andes and then over the North-West Argentine and Entre Rios systems.

Mr. L. L. Dutton, on leaving his office at the headquarters of the line, Great Western Railway, to take the position of chief clerk and secretary of the Cotton Goods Exchange, Ltd., has been presented with a gold watch, a gold chain, a gold fob, and a gold bracelet for Mrs. Dutton. Mr. Dutton, who entered the company's service in the goods department at Great Western Railway, in 1890, has been with the company for 25 years.

[illegible]

He was, however, disappointed to find that the railway was not to be built, and that the Government had decided to build a new line from London to the north, and that the railway was not to be built.

**Mr. A. Hannan**, on retiring after fifty years' railway service, has been presented with a testimonial by the subscribers connected with the Scottish railway and with the trade of the city. Mr. Hannan, who began his career in the Edinburgh goods department of the North British Railway, has for the past thirty-five years acted as general agent in Scotland for the Midland Railway. In acknowledging the presentation, Mr. Hannan said that his fifteen years' education in railway work with the North British was of the greatest advantage in his later years. He referred to the Midland Company's reputation for enterprise and popularity, and said that the Midland was the first to put third-class carriages on all their express trains. The Midland also were the first to put on dining and sleeping carriages on their trains.

**Mr. Muirhead**, presiding at the recent session of the Indian Railway Board, mentioned that during the session they received the melancholy intelligence that a late president, Mr. Manson, had died in London. The news was received with the deepest regret. Mr. Manson attended many conferences and was a most valuable member of the Board. He was particularly helpful in Calcutta. Those who were at that conference would remember how energetically he worked, and how his great capacity assisted them and left his mark on their deliberations. His tact was as remarkable as his ability, and he was held in great respect by all. He asked them to offer his widow their deepest sympathy. Mr. Muirhead was elected president for the ensuing year. The duties of secretary at the session were discharged by Mr. R. Bliss, owing to his relative, Mr. Bliss, being taken ill.

**Sir Arthur Yorke**, a member of the Indian Railway Board of Trade, who recently was appointed a director of the South Eastern and Chatham Railway, is taking an interest in the Kent coal industry. At a meeting of the Kent Coal Concessions, Limited, and other Kentish colliery companies, held on October 30, it was stated that Sir A. Yorke, Sir Henry McCullum, Prof. Galloway and five other gentlemen, had provisionally agreed to become directors of a new company formed to acquire the mineral areas of the four companies on a leasehold basis. In regard to the proposed new board Mr. A. Burr mentioned that it was intended that Sir Arthur Yorke should be appointed as a director of the company, and that he should also join the board of their railway company, giving them the benefit of his experience as a railway director, and also cementing their relations with the South Eastern Railway Company itself.

**Mr. John Wardle**, the first holder of the position of "Commercial Manager" to the Metropolitan Railway Company, also embraces in his work the advertising and publicity departments, and all questions connected with the obtaining of new traffic, etc. Mr. Wardle spent eleven years on the Lancashire and Yorkshire Railway, passing through all departments in the goods manager's office, and becoming, for four years, secretary to the goods manager. He was then appointed an assistant to the secretary of the Grand Trunk Railway of Canada, and while holding this position he accompanied the president, Sir Charles Rivers Wilson, on an inspection tour through Canada and the United States. Four years afterwards he was appointed London manager of the traffic department of the Grand Trunk Railway, and in 1908 he accepted the position to organise and take charge of the traffic department of the Metropolitan Railway Company.

any interference with the traffic. A start has been made with the construction of the new line, and the railway is now in the forecourt, in order to provide accommodation for the electric trains. The railway is now in the forecourt, in order to provide accommodation for the electric trains. The railway is now in the forecourt, in order to provide accommodation for the electric trains.

**Driver Candler Pardon** has been pardoned by the railway authorities for his part in the collision at the recent session at the Aisgill collision. The railway authorities have decided to pardon him his pardon.

**New Saloon for London and North Western Directors.** The board of the London and North Western Railway have inspected a new saloon, which is to be built at the Wolverton works to the designs of Mr. H. D. Earl, the company's carriage engineer. The saloon is to be built at the Wolverton works to the designs of Mr. H. D. Earl, the company's carriage engineer.

**Suggestions for the South Eastern and Chatham Railway.** The board of the South Eastern and Chatham Railway Company will abolish the express fares for the London and Dover line, and will pass a resolution to the effect that the company will provide facilities for the introduction of the Flushing service at night. The hope has also been expressed that the company would see the way to bring the service into operation.

**Lower Fares on the Underground.**—A wholesale reduction in Underground Railway fares came into operation on November 1, principally on the City and South London, but the other railways, including the District, will all be affected by this effort to reduce the cost of London's travelling bill. Some examples of the reductions in rates are as follow:—The fare from Clapham Common to Golden Square will be 3d. instead of 5d.; from London Bridge to Finsbury Park will be 3d.; whilst the fare from Victoria to Euston will be 3d. instead of 5d.

**Serious Collision near Paris.**—Forty passengers were killed and 100 injured in the collision between a mail train from Marseilles to Paris, and a night mail train going in the reverse direction. The disaster was attributed to the driver of the express from Marseilles. It is alleged that, while travelling at ninety kilometres per hour, his train ran past the signals, which were against him. A mail van was smashed, the gas tanks exploded, and the wrecked compartments caught fire. A Reuter's telegram on Thursday reported that it was stated the accident was not due to disregard of the signals.

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ATLAS LOCOMOTIVE WORKS, BRISTOL

## RAILWAY NOTES.

Canadian Northern Railway Issue.

**New South Wales and Canadian Railway Loan Comparison.**—Mr. Holman, Prime Minister of New South Wales, speaking at Sydney on October 30, stated that the Government had decided to issue a loan of £500,000 in stamp revenues and the increase of railway working expenditure by £500,000. Despite the vigorous efforts and increased expenditure of the Labour Party during the past three years, their borrowings for railway against Canada's 728, per head.

**The Alterations at Euston Station.**—The roofing of the forecourt at the Euston terminus of the London and North Western Railway is nearly completed. It has been carried out without

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## RAILWAY STOCK AND SHARE LIST.

## HOME RAILWAY ORDINARY STOCKS.

NAME.	CLOSING PRICES.			NAME.	CLOSING PRICES.		
	Yesterday.	Last Week.	A Year Ago.		Yesterday.	Last Week.	A Year Ago.
Barry, Pref. Conv. Ord. 4½%	171	176	171	176	180	165	
Do. Pref. Conv. Ord. 4½%	81	85	81	85	87		
Do. Pref. Conv. Ord. 4½%	92	95	92	95	97		
Cardiff, Pref. Ord. 1896 (4½%)	70½	71½	70½	71½	72½	75½	
Do. Pref. Conv. Ord. 4½%	55½	54½	54½	57½	57½		
Do. Pref. Conv. Ord. 4½%	17½	17½	17½	17½	18½		
Do. Def. Ord. No. 1	118	118	118	118	118		
Cambrian, Ord. Capital, No. 1	1½	2	1½	2	2½	3	
Do. Coast Cons. Ord.	1½	2	1½	2	2½	3	
Cardiff, Pref. Ord. 1896 (4½%)	71	75	71	75	76	78	
Central London, Ord.	61	66	61	66	74	76	
Do. Pref. (4½%)	70	75	70	75	82	85	
Do. Def. Ord.	60	65	60	65	71	75	
City & South London, Cons. Ord.	6½	6½	6	6	9½	9	
East London, Cons.	56	58	57	59	59	41	
Furness, Cons. Ord.	52	54	52	54	55	57	
Grangemouth, Western Pref. Ord.	2½	2½	2½	2½	2½	2½	
Do. Def. Ord.	2½	2½	2½	2½	2½	2½	
Great Central, Pref. Ord. 6½%	128	128	115	131	143½	150	
Do. Def. Ord.	44½	45½	46½	47½	49½	50	
Great N. of Scotland, Pf. Conv. Ord.	7½	18½	7½	18½	16	13	
Do. Def. Conv. Ord.	7½	80	80	81½	87	88	
Grea Northern, Pref. Conv. Ord.	120	125	120	125	125	125	
Do. Def. Conv. Ord.	120	125	120	125	125	125	
Do. Cons. B.	120	125	120	125	125	125	
Do. Cons. C.	120	125	120	125	125	125	
Great Western, Cons. Ord.	112½	113	113	113½	117½	117½	
Highland, Ord. Capital, Capital	2½	2½	2½	2½	2½	2½	
Hull and Barnsley, Cons.	50½	61	61½	61½	61½	61½	
Ile of Wight, Pf. Conv. Ord. (4½%)	70	72	70	72	71	76	
Do. Def. Conv. Ord.	56	59	56	59	60	62	
Lancashire & Yorkshire, Ord.	101	105	102	104	105	105	
Lond. Brighton & S. Coast, Ord.	101	105	102	104	105	105	
Do. Pref. Ord.	119	121	120	122	121	125	
Do. Def. Ord.	87½	87½	88½	89½	89½	94½	
Do. Cons. B.	87½	87½	88½	89½	89½	94½	
Do. Cons. C.	87½	87½	88½	89½	89½	94½	

## Debenture Stocks.

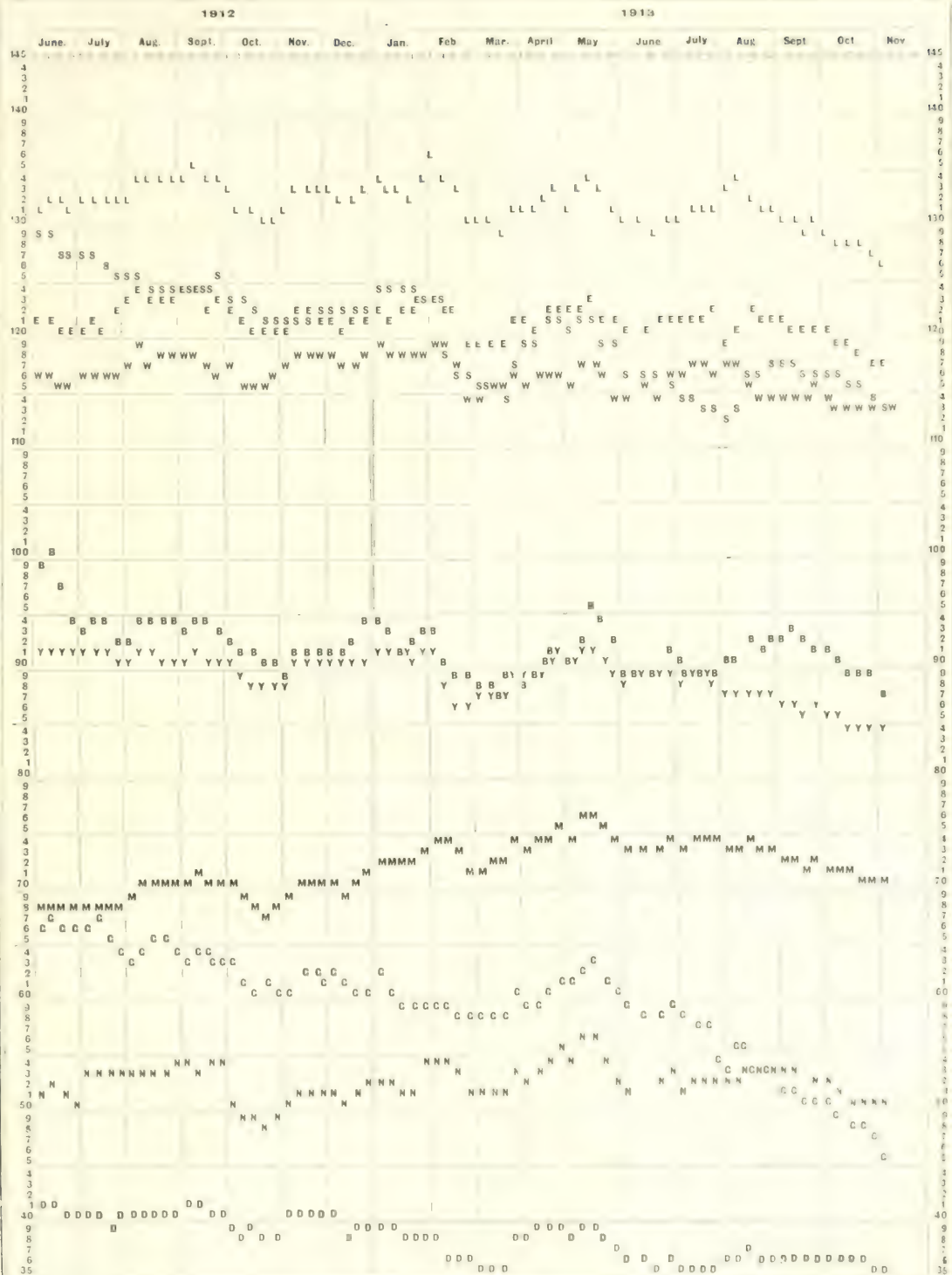
## Debenture Stocks (continued).

## Preference Stocks—

(continued).

Alexandra Docks and Dockway	4½	89	9	North London	4	101	111	Great Western, Cons. Pref. 5% .....	120	122
Barry	4	81	74	Norfolk	4	75	75	Highland Class A 4½% .....	100	102
Broom and Motney A	4	81	95	North Staffordshire	4	94	98	Do. B 5% .....	100	110
Do. B	4	79	81	Plymouth Devon & S.W. Junction	4	95	98	Do. C 5% .....	100	110
Calderdale	4	99	101	Port Talbot Railway and Dock	4	95	98	Do. 4½% Pref. Stock 1897 .....	71	75
Cardiff A	4	89	95	Rhonda and Swansea Bay	4	95	98	Do. 4½% Pref. Stock 1898 .....	71	75
Do. B	4	78	80	Riverway Perpetual	4	95	98	Hull and Barnsley 3½% Pref. 1899 .....	81	82
Do. C	4	71	73	Shedfield District 4½% Cons.	4	95	98	Do. 4½% Pref. 1907 (70% paid) .....	83	84
Do. D	4	45	48	Do.	4	95	98	Ile of Wight 4½% .....	57	61
Cardiff	4	72	74	Do.	4	122	124	Ile of Wight 4½% 1st Pref. .....	57	61
Central London	4	97	97	Do.	4	85	87	Lancashire and Yorkshire Cons. 3½% Pref. .....	96	98
City and South London Perpetual	4	90	92	Taff Vale	4	71	74	Do. 4½% Pref. 1903 .....	96	98
Cardiff and Western Cons. Ord.	4	91	91	Tottenham and Forest Gate	4	95	98	London Brighton, etc., Cons. 5% .....	117	119
East London and Dock Charge A	4	77	79	Whitechapel and Bow	4	95	98	Do. Second Class 5% .....	117	119
Do. 2nd Charge B	4	32	42					London, Chatham, etc., Arbit. 4½% .....	82½	83½
Do. 3rd Charge C	4	17	20					Do. 4½% Second Pref. .....	50	52
Do. 4th Charge D	4	13	16					London Electric 4½% Pref. .....	71	73
Do. E, L. & L. 1st Pref. Ord.	4	79	80					Lon. & North Western Cons. 4½% Pref. .....	98	100
Do. Whitechapel Extension	4	57	59					Lon. & South Western Cons. 4½% Pref. .....	98	98
Port Bristol	4	70	72					Do. 4½% Pref. 1884 .....	95	97
Furness	4	100	102					Do. 4½% Pref. 1885 .....	95	97
Glasgow and S.W. Junction	4	120	122	Alex. Docks, and Rail. 4½% 1st Pref. A	95	93		Mersey 3½% Perp. Pref. .....	15	17
Do.	4	109	111	Do. 4½% 2nd Pref. B	83	85		Metropolitan 3½% Pref. .....	78	80
Do.	4	109	111	Barry 5½% Pref. Stock 1st	117	119		Do. 3½% A Pref. .....	76	78
Do.	4	81	81	Do. 5½% 2nd	95	95		Do. 3½% Conv. Pref. .....	75	76
Do.	4	81	81	Do. 4½% 3rd	93	95		Do. 3½% Conv. Pref. 1st Pref. .....	81	83
Do.	4	97	99	Calderdale 4½% Cons. No. 1	93	95		Do. Assent. Eastern Pref. .....	74	76
Do.	4	99	99	Do. 4½% No. 2	92	94		Midland 2½% Perp. Pref. .....	60	61
Do.	4	99	99	Do. 4½% 1881	112	117		North and Brecon 4½% Pref. .....	71	73
Do.	4	100	102	Do. 4½% 1882	92	94		North British Cons. 4½% No. 2	93	95
Do.	4	109	107	Do. 4½% 1883	92	94		Do. 4½% and Glasgow Pref. 4½%	105	107
Do.	4	112	114	Do. 4½% 1884	92	94		Do. Conv. 4½% 1st Pref. 1871	116	118
Do.	4	124	126	Do. 4½% 1885	91	93		Do. 4½% Pref. 1872	104	106
Do.	4	124	126	Do. 4½% 1886	91	93		Do. 4½% Conv. Pref. 1873	104	106
Do.	4	124	126	Do. 4½% 1887	91	93		Do. 4½% Conv. Pref. 1881	116	118
Do.	4	124	126	Do. 4½% 1888	91	93		Do. 4½% Conv. Pref. 1882	93	95
Do.	4	124	126	Do. 4½% 1889	91	93		Do. 4½% Conv. Pref. 1883	93	95
Do.	4	124	126	Do. 4½% 1890	91	93		Do. 4½% Conv. Pref. 1884	93	95
Do.	4	124	126	Do. 4½% 1891	91	93		Do. 4½% Conv. Pref. 1885	93	95
Do.	4	124	126	Do. 4½% 1892	91	93		Do. 4½% Conv. Pref. 1886	93	95
Do.	4	124	126	Do. 4½% 1893	91	93		Do. 4½% Conv. Pref. 1887	93	95
Do.	4	124	126	Do. 4½% 1894	91	93		Do. 4½% Conv. Pref. 1888	93	95
Do.	4	124	126	Do. 4½% 1895	91	93		Do. 4½% Conv. Pref. 1889	93	95
Do.	4	124	126	Do. 4½% 1896	91	93		Do. 4½% Conv. Pref. 1890	93	95
Do.	4	124	126	Do. 4½% 1897	91	93		Do. 4½% Conv. Pref. 1891	93	95
Do.	4	124	126	Do. 4½% 1898	91	93		Do. 4½% Conv. Pref. 1892	93	95
Do.	4	124	126	Do. 4½% 1899	91	93		Do. 4½% Conv. Pref. 1893	93	95
Do.	4	124	126	Do. 4½% 1900	91	93		Do. 4½% Conv. Pref. 1894	93	95
Do.	4	124	126	Do. 4½% 1901	91	93		Do. 4½% Conv. Pref. 1895	93	95
Do.	4	124	126	Do. 4½% 1902	91	93		Do. 4½% Conv. Pref. 1896	93	95
Do.	4	124	126	Do. 4½% 1903	91	93		Do. 4½% Conv. Pref. 1897	93	95
Do.	4	124	126	Do. 4½% 1904	91	93		Do. 4½% Conv. Pref. 1898	93	95
Do.	4	124	126	Do. 4½% 1905	91	93		Do. 4½% Conv. Pref. 1899	93	95
Do.	4	124	126	Do. 4½% 1906	91	93		Do. 4½% Conv. Pref. 1900	93	95
Do.	4	124	126	Do. 4½% 1907	91	93		Do. 4½% Conv. Pref. 1901	93	95
Do.	4	124	126	Do. 4½% 1908	91	93		Do. 4½% Conv. Pref. 1902	93	95
Do.	4	124	126	Do. 4½% 1909	91	93		Do. 4½% Conv. Pref. 1903	93	95
Do.	4	124	126	Do. 4½% 1910	91	93		Do. 4½% Conv. Pref. 1904	93	95
Do.	4	124	126	Do. 4½% 1911	91	93		Do. 4½% Conv. Pref. 1905	93	95
Do.	4	124	126	Do. 4½% 1912	91	93		Do. 4½% Conv. Pref. 1906	93	95
Do.	4	124	126	Do. 4½% 1913	91	93		Do. 4½% Conv. Pref. 1907	93	95
Do.	4	124	126	Do. 4½% 1914	91	93		Do. 4½% Conv. Pref. 1908	93	95
Do.	4	124	126	Do. 4½% 1915	91	93		Do. 4½% Conv. Pref. 1909	93	95
Do.	4	124	126	Do. 4½% 1916	91	93		Do. 4½% Conv. Pref. 1910	93	95
Do.	4	124	126	Do. 4½% 1917	91	93		Do. 4½% Conv. Pref. 1911	93	95
Do.	4	124	126	Do. 4½% 1918	91	93		Do. 4½% Conv. Pref. 1912	93	95
Do.	4	124	126	Do. 4½% 1919	91	93		Do. 4½% Conv. Pref. 1913	93	95
Do.	4	124	126	Do. 4½% 1920	91	93		Do. 4½% Conv. Pref. 1914	93	95
Do.	4	124	126	Do. 4½% 1921	91	93		Do. 4½% Conv. Pref. 1915	93	95
Do.	4	124	126	Do. 4½% 1922	91	93		Do. 4½% Conv. Pref. 1916	93	95
Do.	4	124	126	Do. 4½% 1923	91	93		Do. 4½% Conv. Pref. 1917	93	95
Do.	4	124	126	Do. 4½% 1924	91	93		Do. 4½% Conv. Pref. 1918	93	95
Do.	4	124	126	Do. 4½% 1925	91	93		Do. 4½% Conv. Pref. 1919	93	95
Do.	4	124	126	Do. 4½% 1926	91	93		Do. 4½% Conv. Pref. 1920	93	95
Do.	4	124	126	Do. 4½% 1927	91	93		Do. 4½% Conv. Pref. 1921	93	95
Do.	4	124	126	Do. 4½% 1928	91	93		Do. 4½% Conv. Pref. 1922	93	95
Do.	4	124	126	Do. 4½% 1929	91	93		Do. 4½% Conv. Pref. 1923	93	95
Do.	4	124	126	Do. 4½% 1930	91	93		Do. 4½% Conv. Pref. 1924	93	95
Do.	4	124	126	Do. 4½% 1931	91	93		Do. 4½% Conv. Pref. 1925	93	95
Do.	4	124	126	Do. 4½% 1932	91	93		Do. 4½% Conv. Pref. 1926	93	95
Do.	4	124	126	Do. 4½% 1933	91	93		Do. 4½% Conv. Pref. 1927	93	95
Do.	4	124	126	Do. 4½% 1934	91	93		Do. 4½% Conv. Pref. 1928	93	95
Do.	4	124	126	Do. 4½% 1935	91	93		Do. 4½% Conv. Pref. 1929	93	95
Do.	4	124	126	Do. 4½% 1936	91	93		Do. 4½% Conv. Pref. 1930	93	95
Do.	4	124	126	Do. 4½% 1937	91	93		Do. 4½% Conv. Pref. 1931	93	95
Do.	4	124	126	Do. 4½% 1938	91	93		Do. 4½% Conv. Pref. 1932	93	95
Do.	4	124	126	Do. 4½% 1939	91	93		Do. 4½% Conv. Pref. 1933	93	95
Do.	4	124	126	Do. 4½% 1940	91	93		Do. 4½% Conv. Pref. 1934	93	95
Do.	4	124	126	Do. 4½% 1941	91	93		Do. 4½% Conv. Pref. 1935	93	95
Do.	4	124	126	Do. 4½% 1942	91	93		Do. 4½% Conv. Pref. 1936	93	95
Do.	4	124	126	Do. 4½% 1943	91	93		Do. 4½% Conv. Pref. 1937	93	95
Do.	4	124	126	Do. 4½% 1944	91	93		Do. 4½% Conv. Pref. 1938	93	95
Do.	4	124	126	Do. 4½% 1945	91	93		Do. 4½% Conv. Pref. 1939	93	95
Do.	4	124	126	Do. 4½% 1946	91	93		Do. 4½% Conv. Pref. 1940	93	95
Do.	4	124	126	Do. 4½% 1947	91	93		Do. 4½% Conv. Pref. 1941	93	95
Do.	4	124	126	Do. 4½% 1948	91	93		Do. 4½% Conv. Pref. 1942	93	95
Do.	4	124	126	Do. 4½% 1949	91	93		Do. 4½% Conv. Pref. 1943	93	95
Do.	4	124	126	Do. 4½% 1950	91	93		Do. 4½% Conv. Pref. 1944	93	95
Do.	4	124	126	Do. 4½% 1951	91	93		Do. 4½% Conv. Pref. 1945	93	95
Do.	4	124	126	Do. 4½% 1952	91	93		Do. 4½% Conv. Pref. 1946	93	95
Do.	4	124	126	Do. 4½% 1953	91	93		Do. 4½% Conv. Pref. 1947	93	95
Do.	4	124	126	Do. 4½% 1954	91	93		Do. 4½% Conv. Pref. 1948	93	95
Do.	4	124	126	Do. 4½% 1955	91	93		Do. 4½% Conv. Pref. 1949	93	95
Do.	4	124	126	Do. 4½% 1956	91	93		Do. 4½% Conv. Pref. 1950	93	95
Do.	4	124	126	Do. 4½% 1957	91	93		Do. 4½% Conv. Pref. 1951	93	95
Do.	4	124	126	Do. 4½% 1958	91	93		Do. 4½% Conv. Pref. 1952	93	95
Do.	4	124	126	Do. 4½% 1959	91	93		Do. 4½% Conv. Pref. 1953	93	95
Do.	4	124	126	Do. 4½% 1960	91	93		Do. 4½% Conv. Pref. 1954	93	95
Do.	4	124	126	Do. 4½% 1961	91	93		Do. 4½% Conv. Pref. 1955	93	95
Do.	4	124	126	Do. 4½% 1962	91	93		Do. 4½% Conv. Pref. 1956	93	95
Do.	4	124	126	Do. 4½% 1963	91	93		Do. 4½% Conv. Pref. 1957	93	95
Do.	4	124	126	Do. 4½% 1964	91	93		Do. 4½% Conv. Pref. 1958	93	95
Do.	4	124	126	Do. 4½% 1965	91	93		Do. 4½% Conv. Pref. 1959	93	95
Do.	4	124	126	Do. 4½% 1966	91	93		Do. 4½% Conv. Pref. 1960	93	95
Do.	4	124	126	Do. 4½% 1967	91	93		Do. 4½% Conv. Pref. 1961	93	95
Do.	4	124	126	Do. 4½% 1968	91	93		Do. 4½% Conv. Pref. 1962	93	95
Do.	4	124	126	Do. 4½% 1969	91	93		Do. 4½% Conv. Pref. 1963	93	95
Do.	4	124	126	Do. 4½% 1970	91	93		Do. 4½% Conv. Pref. 1964	93	95
Do.	4	124	126	Do. 4½% 1971	91	93		Do. 4½% Conv. Pref. 1965	93	95
Do.	4	124	126	Do. 4½% 1972	91	93		Do. 4½% Conv. Pref. 1966	93	95
Do.	4	124	126	Do. 4½% 1973	91	93		Do. 4½% Conv. Pref. 1967	93	95
Do.	4	124	126	Do. 4½% 1974	91	93		Do. 4½% Conv. Pref. 1968	93	95
Do.	4	124	126	Do. 4½% 1975	91	93		Do. 4½% Conv. Pref. 1969	93	95
Do.	4	124	126	Do. 4½% 1976	91	93		Do. 4½% Conv. Pref. 1970	93	95
Do.	4	124	126	Do. 4½% 1977	91	93		Do. 4½% Conv. Pref. 1971	93	95
Do.	4	124	126	Do. 4½% 1978	91	93		Do. 4½% Conv. Pref. 1972	9	





B—London, Brighton & South Coast, 1905. D—London & South Eastern, 1905. E—Great Eastern, 1905. C—Great Central, 1905.  
 L—London & North-Western, 1905. M—Midland, 1905. N—North Eastern, 1905. S—South Eastern, 1905. W—Westminster, 1905. Y—Yorkshire, 1905.

THE PRICES OF SOME HOME RAILWAY STOCKS June 7, 1912—November 8, 1913.



	Tax Value	1911	1912
Passengers, etc.	\$4,578	\$4,265	
Total for week	\$21,604	\$19,756	
For the week	\$1,412	\$1,361	\$95.11

NEWSON AND EMMANUELSON—A TEST FOR THE SIGNIFICANCE OF THE CORRELATION COEFFICIENT IN THE REGRESSION OF TWO VARIABLES



# OFFICIAL TRAFFIC RETURNS

## BRITISH AND IRISH RAILWAYS, &amp;c.

No.	Dividend.		Latest Earnings Reported.		No. of Weeks	Aggregate to Date.		
	1913.	1912.	Period.	1913.		Incurred.	1913.	Incurred.
1	50	40	Oct. 31	1,115	47 1/2	41	113,038	+29,115
Broom & Wark	61	61	Nov. 2	2,521	50	41	110,395	+11,515
Broom & Wark	22 1/2	39 1/2	Nov. 1	1,343	25	41	57,535	+7,270
Cons. Iron & S.	31 1/4	31 1/4	Nov. 1	500	22	41	35,914	+4,655
Cons. Iron & S.	93 1/2	93 1/2	Oct. 31	2,011	44 1/2	41	89,133	+2,735
Cons. Iron & S.	18	18	Oct. 31	1	1	41	3,024	+1,024
East. Iron & S.	46 1/2	46 1/2	Aug. 31	3,450	58 1/2	58 1/2	26,144	+1,633
East. Iron & S.	40 1/2	40 1/2	Nov. 1	454	5	41	41,132	+1,241
East. Iron & S.	14 1/2	14 1/2	Nov. 1	181	5	41	74,611	+1,051
East. Iron & S.	21 1/2	21 1/2	Nov. 1	181	5	41	37,303	+2,200
East. Iron & S.	61	61	Nov. 2	1,735	15 1/2	41	33,548	+1,048
M. & C. Iron & S.	168	168	Nov. 1	45,347	3,583	58 1/2	351,633	+5,711
M. & C. Iron & S.	42	12 1/2	Nov. 1	2,240	28 1/2	41	98,878	+5,078
M. & C. Iron & S.	43	1 1/2	Nov. 1	8,228	41	41	48,806	+1,006
M. & C. Iron & S.	60	60	Nov. 2	1,867	71	71	87,460	+3,722
M. & C. Iron & S.	60	60	Nov. 2	1,943	50	41	77,730	+5,001
Port. Iron & S.	35 1/2	31	Nov. 2	3,388	59 1/2	41	142,563	+21,103
Port. Iron & S.	62	62	Nov. 2	2,692	59 1/2	41	111,849	+1,049
Port. Iron & S.	62	62	Nov. 2	2,692	59 1/2	41	111,849	+1,049

## FOREIGN AND COLONIAL—Continued.

Railway.	Mileage.		Latest Earnings Reported.		No. of Weeks.	Aggregate to Date.	
	1913.	1912.	Period.	1913. Incor-dec.		1912-13.	Incor-dec.
Salvador.....	103	100	Nov. 1	10,000	18	340,340	-51,000
San Paulo.....	1193	1182	Oct. 26	95,425	17	499,122	-49,122
Stom-Fungate.....	425	425	June 1	5,749.49	3M	14,46,100	-55,958
Ludha, Ext. c.....	155	155	June 1	145,301	3M	3,48,314	-94,616
W. P. & Yukon.....	210	210	June 1	36,392.39	3M	1,56,109	-48,414
Strom, Fairbank.....	1,749.1	1,692.2	Sept. 30	81,695.55	3M	1,44,22,654	+5,93,945
Edith.....	184	184	Sept. 1	24,112	3M	73,260	-1,731
Temiscouata.....	113	113	August 1	21,205	2M	46,866	-1,513
W. P. & Yukon.....	210	210	Sept. 1	19,477	2M	319,451	+5,757
Urg-E. Coast.....	71	71	Oct. 5	+549	21	14	1,757
Urg. North.....	73	73	Sept. 2	2,332	3M	6,623	-1,318
W. P. & Yukon.....	147	147	Nov. 1	3,791	3M	98,069	+9,877
Yukon & Fairbank.....	112	112	Oct. 21	77,400	21	2,745,900	+299,400
W. P. & Yukon.....	112	112	Oct. 1	16,612	2M	132,692	+5,919

## UNITED STATES RAILWAYS

Nab. & G. St. h.	371	8793	Oct 14	8,800.00	-7,764.14	15	\$1,492,454.	-586.00
Aia. N. O. & T. P.	524	425	S p	62,000.00	-5,500.00	3M	1,949,000.	+1,949.00
Atc. Top. & S. C.	10,123	9,791	Aug 14	9,791.75	-101,441.	12M	18,874,941	+284,151
Halt. On. & T. P.	1,434	1,459	S p	9,037.50	+431,482	3M	17,407,818	+1,785,228
Cent. of Gen. f. g.	1,816	1,816	Aug 14	1,816.00	-240,521	12M	2,405,521	-308,828
Cent. of N. J. x	531	657	Aug 14	2,886.50	-240,521	3M	5,660,947	-201,341
Che. & Ohio	1,933	1,933	Oct 14	641.75	-22,503	15	15,569,000	+336.00
Chic. Gr. & West.	1,453	1,457	Oct 14	1,457.00	-191,151	15	4,474,454	+294,355
Chic. N. W. & T. P.	337	337	Aug 14	7,800,122	-210,000.00	3M	15,830,000	+1,499,878
Chn. N. O. & T. P.	337	337	Oct 14	214.75	-11,277	3M	3,004,988	+158,558
Cin. Cin. ch. & T.	1,933	1,933	Aug 14	3,391.12	+4,267	12M	6,261,415	+483,900
D. Nat. & Res. G.	2,777	2,777	Oct 14	1,413.00	-1,193,751	3M	7,697,115	-76,358
E. & W. T. P.	1,453	1,453	S p	5,655,331	-1,193,751	12M	11,843,000	+1,193,751
G. Northern	7,271	7,037	S p	8,785,231	-104,214	3M	22,995,873	+2,604,214
Illinois Central	4,551	4,551	Sept.	5,767,003	-20,921	15	16,826,243	+582,414
Kansas & Nash.	4,581	4,542	Oct 14	1,375,855	-98,400	15	19,401,336	+1,123,855
L. & N. W. T. P.	2,027	2,027	Oct 14	2,027.00	-248,700	3M	15,830,000	-248,700
M. St. P. S. S. & M.	5,672	3,414	Oct 14	75,805	-55,373	15	9,648,316	+1,235,855
Miss. Kan. & T. P.	3,393	3,393	Oct 28	1,074,290	-153,923	17	11,663,716	+716,141
Nat. of Mexico	1,750	1,732	Oct 14	61,739	-356,253	15	9,967,740	-8,564,123
N. Y. & N. E.	9,577	9,577	Aug 14	9,577.00	-248,700	3M	20,921,000	+1,352,300
N. Y. Ont. & W.	445	645	Aug 14	971,550	-49,333	3M	1,964,435	-32,523
Nor. & West.	1,951	1,941	Aug 14	3,934,475	+147,655	15	7,779,205	+93,251
Northern Pac.	6,019	6,639	Aug 14	6,013,753	-21,970	3M	12,086,359	+300,355
Pac. & N. W.	319	319	Aug 14	319.00	-248,700	3M	1,964,435	-248,700
P. L. & San. Fr.	4,731	4,731	Aug 14	4,033,290	-255,561	3M	13,836,699	+710,600
St. Louis & S. W.	1,471	1,469	Oct 14	27.99	-19,003	15	3,40,253	-41,514
Southern	7,095	7,090	O. & T.	1,847,149	-77,187	15	19,841,701	+972,944
T. & N. W.	319	319	Aug 14	319.00	-248,700	3M	1,964,435	-248,700
Wash.	2,514	2,514	S p	2,092,654	+217,054	3M	8,677,230	+344,460
Whil. & L. Bro	457	463	S p	80,235	+84,708	3M	2,523,035	+110,460

## FOREIGN AND COLONIAL RAILWAYS.

Country.	Months.		Latest Estimate Reported		No. of Weeks.	Amount to Date	
	1913.	1912.	Percent	1913.		1913.	1912.
Algeria & Tunis	32	32	Nov. 1	8,000	-1,000	41	633,630
Algeria	110	111	Aug. 21	62,258	+25,351	51	2,110,191
Anglo-Ch. Nit.	70	70	Sept.	2,930	+90	—	—
Antioch & Balaia	731	763	Nov. 2	13,330	+200	44	1,593,145
Asia-Nor. E.	695	665	Oct. 31	6,755	-179	18	124,630
Asia-Nor. W.	111	111	Oct. 31	9,000	-70	37	25,000
Assam-Bengal	595	595	Sept. 30	2,340	+55,551	25	30,92,771
Bari	116	70	Nov. 1	11,775	1,000	5	71,600
Bomb. & N.W. Ind.	2,093	1,918	Sept. 30	11,120	6,612	26	17,91,393
Bomb. & S. Ind.	110	110	Sept. 30	10,000	-1,000	—	-15,000
Extensioes	117	117	Oct. 10	4,785	+828	2	36,763
Bengal-Nor. E.	2,751	2,449	Sept. 25	7,490,000	+85,000	27	182,87,000
Bomb. & C. Ind.	110	110	Sept. 30	5,000	—	10M	62,411
Bomb. & C. Ind.	2,774	2,774	Nov. 1	19,113,000	-12,000	4	48,40,000
Braz. & S. Ind.	110	110	Aug. 31	245,490	+1,653	8M	1,185,534
Braz. & S. Ind.	471	403	Oct. 31	5,062	-5,686	43	3,815,250
B. A. & Pac. Ind.	3,439	3,437	Nov. 1	35,993	-15,000	15	1,530,000
B. A. & Pac. Ind.	199	199	August.	27,637	+4,881	2M	55,386
B. A. & S. Ind.	3,682	3,677	Nov. 2	101,000	-9,000	18	1,625,000
B. A. & S. Ind.	1,781	1,653	Nov. 2	44,900	-9,400	18	768,000
Burma	1,544	1,420	Sept. 30	157,407	+9,017	26	99,40,359
Burma	1,520	1,420	Oct. 31	9,000	-1,000	17	43,48,000
Can. Pacific	11,791	11,240	Oct. 31	1,604,000	-467,000	27	1,43,60,000
Caribbean	—	—	Sept.	27,877	+1,607	3M	54,636
Chile	3,125	2,354	Nov. 1	118,400	-9,400	13	2,260,800
Chile	2,771	2,771	Nov. 1	9,000	—	18	214,000
East. Ind.	711	711	Nov. 1	4,500	-100	18	44,355
N. A. & S. Ind.	18	182	Nov. 1	2,436	-600	18	11,321
West. Ind.	211	211	Nov. 1	2,023	—	18	23,088
Chile	110	110	Sept. 30	8,000	-1,000	—	—
Chile	110	110	Sept. 30	10,770	1,250	15	816,881
Costa Rica	202	225	Oct. 1	9,000	-600	11	118,000
Cuba	337	271	Nov. 1	6,628	+1,043	18	118,975
Cuba Central	1,421	1,191	Nov. 1	15,760	-1,000	14	13,335
Denmark	633	613	Sept.	11,600	+500	3M	49,135
West. Ind.	10	10	Sept.	2,433	-300	3M	7,212
Denmark Central	—	—	Sept. 14	231,131	+1,000	37	9,924,800
Denmark	2,791	2,621	Nov. 1	18,590,000	-3,000,000	30M	1,000,187
Denmark	100	100	Oct. 20	10,931	+1,777	25	1,00,000
Denmark	100	100	Sept.	5,000	—	19	1,00,000
Denmark	628	628	Nov.	15,000	+1,230	18	194,000
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	274,763	+11,238	17	4,22,432
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	14,531	-2,211	17	177,895
E. Ind. & C. Ind.	150	150	Oct. 31	15,420	-600	17	2,665
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	351,813	+13,202	17	1,136,350
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	61,102	—	15	53,141
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	11,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415	Oct. 31	15,750	-10,700	16	134,760
E. Ind. & C. Ind.	1,415	1,415					

### WORKING STATEMENTS AS LAST REPORTED

Railroad.	Gross Earnings.		Net Earnings.	
	1913.	Inc. or dec.	1913.	Inc. or dec.
Alabama Gt. Southern .. August	\$448,474	+ \$23,934	\$116,655	— \$13,835
July 1 to August 31 ..	830,459	+ 87,963	212,721	— 15,477
Atch. Topk. & Santa Fe .. August	733,556	+ 101,113	3,288,957	+ 73,745
July 1 to August 31 ..	13,877,814	+ 1,875,441	61,473,300	+ 6,171,300
Baltimore & Ohio .. September	1,977,853	+ 131,492	724,503	+ 112,800
July 1 to September 30 ..	27,479,818	+ 1,754,291	8,486,191	+ 524,000
Canadian Northern .. September	1,143,930	—	341,919	+ 101,400
July 1 to Sept. 30 ..	6,744,800	+ 591,590	2,400,000	+ 400,000
Canadian Pacific .. September	12,157,000	— 577,000	4,416,000	+ 165,000
July 1 to Sept. 30 ..	35,585,000	— 293,000	12,494,000	— 922,000
Chicago & North Western .. August	3,424,500	+ 114,100	1,400,000	— 70,300
July 1 to August 31 ..	10,515,518	+ 912,116	2,063,709	— 70,300
Chicago Great West. .. August	1,307,545	+ 67,673	431,706	+ 47,967
July 1 to August 31 ..	2,514,475	+ 194,330	753,300	+ 92,940
Denver & Rio Grande .. July	1,945,611	— 13,357	376,446	— 98,060
Grand Trunk of Canada ..	2,725,403	+ \$24,483	\$3,763,630	+ \$65,750
Month of Sept. 30 ..	2,413,930	+ 114,000	701,500	+ 89,670
Carola Atlantic .. September	43,100	— 1,000	Dr. 2,350	—
July 1 to Sept. 30 ..	133,350	+ 7,950	Dr. 19,750	— 16,750
Great Indian W. & Pac. S. P. ..	15,000	—	15,500	— 12,150
July 1 to Sept. 30 ..	47,000	+ 19,000	16,150	— 16,150
Illinois & M. & St. L. S. P. ..	45,100	— 100	4,900	+ 2,900
July 1 to Sept. 30 ..	151,700	— 5,600	14,600	+ 14,600
Total for System .. September	1,185,830	—	250,350	— 8,850
July 1 to Sept. 30 ..	3,002,247	+ 113,201	750,850	— 1,000
Rocky Mt. & Northern .. Aug.	\$5,032,247	+ \$39,241	\$1,154,635	— \$281,120
July 1 to August 31 ..	10,017,441	+ 643,313	2,317,173	— 177,893
Min. & St. P. & S. M. & N. ..	1,053,930	+ 113,930	913,020	+ 140,505
July 1 to Aug. 31 ..	3,011,935	+ 313,935	913,020	+ 140,505
Mo. & W. & Pac. .. Aug.	2,381,100	+ 234,447	877,585	+ 14,916
July 1 to August 31 ..	5,985,178	+ 611,813	1,639,793	+ 123,751
Mo. & W. & St. L. .. Aug.	1,007,500	+ 175,575	395,630	+ 125,615
July 1 to August 31 ..	2,977,500	+ 1,751,575	1,074,025	+ 400,633
N. Y. & N. H. & W. St. L. .. July	957,000	+ 10,133	354,482	— 64,110
Rocky Mt. & Northern .. August	4,234,717	— 181,488	1,122,639	— 116,762
Jan. 1 to August 31 ..	8,471,417	— 111,488	2,632,938	— 100,000
Rocky Mt. & Northern .. August	2,111,256	— 1,331,281	Dr. 149,374	— 156,406
Jan. 1 to August 31 ..	4,202,461	— 2,022,055	Dr. 338,298	— 181,443
Rocky Mt. & Northern .. August	6,157,035	—	1,773,294	— 92,789
Jan. 1 to August 31 ..	12,148,471	— 2,307,143	3,493,632	— 1,203,899
Rocky Mt. & Northern .. August	3,841,577	— 71,081	960,659	— 215,144
Jan. 1 to August 31 ..	28,872,634	+ 1,145,577	3,651,341	— 3,397,811
Rocky Mt. & Northern .. July	3,934,517	+ 154,535	1,101,691	+ 3,801,731
Rocky Mt. & Northern .. September	5,651,100	— 24,294	1,603,194	— 232,554
Jan. 1 to August 31 ..	11,093,213	— 9,500	3,018,793	— 396,499
Rocky Mt. & Northern .. August	8,781,421	—	2,318,718	— 1,026,645
Jan. 1 to August 31 ..	16,324,110	— 5,911	5,530,359	— 1,829,229
Rocky Mt. & Northern .. July	2,731,917	+ 197,815	606,242	+ 1,291,215

\* Including Santa Fe, Argentina. See also *Thruway* for loose receipts. † Including Indian Method. ‡ Including receipts of leased lines.

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"MOSBAY, CANNON, LONDON"

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## **The Kalamazoo isn't a Filing Box; it's just a Book with removable pages**

Other loose-leaf systems are heavy, cumbersome box-like arrangements with metal projections that damage the polished surface of the desk. They neither open flat nor shut flat. Their methods of operation are complicated and slow.

With a Kalamazoo it is different. Sheets can be instantly added to any part of the book without disturbing the other pages. See how closely the Kalamazoo Loose-Leaf Ledger resembles an old-fashioned leather-bound book in appearance. There are no metal projections of any kind. The covers close completely without leaving any unsightly and disfiguring gap. When opened, the sheets lie perfectly flat, and the back "arches" much like an ordinary sewn book. These are exclusive features of the Kalamazoo, which are due to the "receding back," without which such flexibility could never be attained.

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Used all over the World.

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The Assam-Bengal Railway Company,  
Limited.

[illegible]

By order of the Board,  
OSWALD I. MILNE,  
Secretary.

North Eastern Railway.

**T**HE Directors are prepared to receive Tenders for the Purchase, during the six or twelve months ending on January 1991, of the following quantities of the following materials, to be delivered to the following houses at Gateshead, Darlington, Shildon or York:

Boards, Common Drillings, Metal Borings, and Metal Firebricks, 2 1/2" x 12" x 12" x 12" (1000000), 4" x 12" x 12" x 12" (1000000), 6" x 12" x 12" x 12" (1000000), 8" x 12" x 12" x 12" (1000000), 10" x 12" x 12" x 12" (1000000), 12" x 12" x 12" x 12" (1000000), 14" x 12" x 12" x 12" (1000000), 16" x 12" x 12" x 12" (1000000), 18" x 12" x 12" x 12" (1000000), 20" x 12" x 12" x 12" (1000000), 22" x 12" x 12" x 12" (1000000), 24" x 12" x 12" x 12" (1000000), 26" x 12" x 12" x 12" (1000000), 28" x 12" x 12" x 12" (1000000), 30" x 12" x 12" x 12" (1000000), 32" x 12" x 12" x 12" (1000000), 34" x 12" x 12" x 12" (1000000), 36" x 12" x 12" x 12" (1000000), 38" x 12" x 12" x 12" (1000000), 40" x 12" x 12" x 12" (1000000), 42" x 12" x 12" x 12" (1000000), 44" x 12" x 12" x 12" (1000000), 46" x 12" x 12" x 12" (1000000), 48" x 12" x 12" x 12" (1000000), 50" x 12" x 12" x 12" (1000000), 52" x 12" x 12" x 12" (1000000), 54" x 12" x 12" x 12" (1000000), 56" x 12" x 12" x 12" (1000000), 58" x 12" x 12" x 12" (1000000), 60" x 12" x 12" x 12" (1000000), 62" x 12" x 12" x 12" (1000000), 64" x 12" x 12" x 12" (1000000), 66" x 12" x 12" x 12" (1000000), 68" x 12" x 12" x 12" (1000000), 70" x 12" x 12" x 12" (1000000), 72" x 12" x 12" x 12" (1000000), 74" x 12" x 12" x 12" (1000000), 76" x 12" x 12" x 12" (1000000), 78" x 12" x 12" x 12" (1000000), 80" x 12" x 12" x 12" (1000000), 82" x 12" x 12" x 12" (1000000), 84" x 12" x 12" x 12" (1000000), 86" x 12" x 12" x 12" (1000000), 88" x 12" x 12" x 12" (1000000), 90" x 12" x 12" x 12" (1000000), 92" x 12" x 12" x 12" (1000000), 94" x 12" x 12" x 12" (1000000), 96" x 12" x 12" x 12" (1000000), 98" x 12" x 12" x 12" (1000000), 100" x 12" x 12" x 12" (1000000).

From that tender may be obtained the application to the Municipal Council, San Francisco, California, for a license to sell liquor, and from the Secretary of the State, for a license to sell liquor, and from the Mayor of the City of San Francisco, for a license to sell liquor. The license to sell liquor is issued by the Mayor of the City of San Francisco, and the license to sell liquor is issued by the Secretary of the State, and the license to sell liquor is issued by the Municipal Council, San Francisco, California.

East Indian Railway Company.

[illegible]

By order,  
C. W. YOUNG,  
Secretary.

**OFFICIAL ADVERTISEMENTS** for insertion in the current week's issue should be received by 4 p.m. on Friday.

A communication relating to advertisements should be addressed to **THE RAILWAY TIMES, 12, NORTON STREET, STRAND, LONDON, W.C.**

Reg. Offices: SATELEY, BIRMINGHAM. London Offices: BRUNSWICK HOUSE CENTRAL BLDGS., WESTMINSTER, S.W.  
Telegrams: "METRO," BIRMINGHAM. "RAILCAR, VIC., LONDON." "SHAFT," WEDNESBURY.

# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, NOVEMBER 15, 1913.

No. 20.

## PRINCIPAL CONTENTS.

## RAILWAY CONCILIATION BOARDS.

providing for Conciliation Boards. The notices have been given in accordance with the instruction of the executive of the National Union of Railwaymen, and it is understood that by December similar notices will have been given to all of the companies. According to the original agreements made in 1907, the notice of termination could not be given by either party before November 6, and when given twelve months' notice had to be allowed, so that if the intention referred to is carried out, the existing Conciliation Board arrangements will automatically terminate in November, 1914. The position is interesting from several points of view. First of all it must be pointed out that the existing Conciliation Boards were not brought into being by the railway companies; on the contrary, they were introduced against the better judgment of many responsible railway administrators. Mr. Lloyd George himself may indeed be regarded as the father of the Conciliation Board scheme, and the whole machinery was set up under the auspices of the Board of Trade, of which at that time he was the President. Any amendments or the abolition of the existing machinery, therefore, is more a matter of concern to the Board of Trade and to the Government than to the railway companies, and it must be taken for granted that any negotiations concerning the present arrangement must be conducted under the auspices of the Board of Trade, the railway companies being only one of the three parties to the agreement. We trust that the twelve months which will elapse will be a good deal longer than is really necessary to come to some satisfactory arrangement; and the last thing that is desirable is that the whole year shall be devoted to propaganda by the National Union of Railwaymen, with the possibility of a strike overhanging the trade of the country for the whole of the period. This might possibly suit the tactical requirements

Trade may be assumed to have some regard for these. It is also worth recalling that the railway companies, as we think rightly, have not at any stage interfered with the active steps taken by the National Union of Railwaymen to increase its membership. The railway companies do not wish to be regarded as the cause of the unionist. Indeed, if we might venture on an important criticism, it would be that the railway non-unionist has had the least encouragement of either party. No doubt we shall hear a great deal about formal claims for "recognition" on the part of the National Union of Railwaymen. Natural and inevitable objections will be encountered in asserting this claim, for the whole spirit of the railway official world is against it. All the same, we do not see how the companies, having yielded so much to trade unionism, can ultimately refuse some arrangement which will provide for what may in a sense be considered "recognition," and the sooner an understanding on this basis is come to the better. Several permanent and responsible

## THE RAILWAY TIMES.

Established in 1837.

PUBLISHED EVERY SATURDAY

Annual Subscription post free, 25 shillings.

All communications for the following issue should be received not later than 6 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

Money Orders, Cheques, etc., should be drawn in favour of THE RAILWAY TIMES, and should be crossed "National Bank." Telegraphic Address: "Attnetors, London." Telephone: No. 2948 (Gerrard). Offices: 12, Norfolk Street, London, W.C.

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various occasions recently expressed their willingness to grant a form of guarantees for the faithful observance of agreements if the railway companies are willing to give, as we believe they would be, similar sureties. It appears to us that the claim for "recognition" on the one hand, and a possible willingness to grant guarantees on the other, might form a useful basis for negotiations, which might bring to an early conclusion an agitation which, if protracted, can only produce mischief, not merely to the railwaymen's interests and the interests of the companies, but more particularly to those of the public. We are far from taking the gloomy, or indeed almost hopeless, view, of labour affairs, which we note prevails in some official quarters. Such views really attribute to the National Union of Railwaymen a power which no one knows better than themselves they do not possess. But what is particularly desirable is that immediately after notice to amend existing conciliation arrangements is given, prompt and effective steps should be taken to set up a suitable substitute or some amended scheme without unnecessary delay.

### NEED FOR ORGANISED DEFENCE.

companies of this country will take full advantage of the opportunity given them by the Royal Commission which began the hearing of evidence yesterday to put fully before the country a reasoned defence against the criticisms which are so often hurled at them with regard to rates, preference, and other matters. A large proportion of British traders are constantly making complaints against the railway companies, and these complaints are frequently based on ignorance of the real facts. Chambers of Commerce and other traders' societies pass hostile and denunciatory resolutions, and as often as opportunity offers the House of Commons resounds with grievances. The

complaints. The trouble is that they do not give the answers; they remain as dumb dogs, and the general public are apt to conclude that no answer is possible.

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in delivery was postponed till March next. Generally, the speeches made were hostile to the companies, and Sir Charles Owens and Mr. Alfred Aslett, who were present, were as voices crying in the wilderness. They made perfectly good points against the resolutions, but the complaint remained of the delay experienced in getting replies from goods managers to representations. In the light of all the facts, it is surely plain that what the railway companies require is a joint permanent publicity department to reply to criticisms, answer complaints, announce decisions and give the reasons for them, and acquaint the public with the difficulties which the companies experience in fulfilling their duties. Sir Charles Owens himself said in his recent address to the Railway Students' Association of the London School of Economics (reported in our issue of November 1) that it is rarely that a railway question appears on the agenda of a Chamber of Commerce which a railway man could not explain and get rid of in a few sentences. He hoped that more railway men would become members of Chambers of Commerce. He certainly succeeded in the address referred to in shattering many of the criticisms made at the Antwerp meeting and elsewhere. Perhaps the remarks of Mr. Frank Potter, on October 15, at a meeting of the Great Western Railway (London) Debating Society may be regarded as an indication that the railway companies are about to make a move. He said that the companies had cause to complain of much that was ill-informed and biased in criticism, and it was a question whether the time had not arrived when the railways should take some effective steps to deal with such criticism. Most assuredly the time has arrived and more than arrived. It is to be hoped that the steps taken by the companies for preparing their case and submitting it to the Royal Commission will be followed by a course of systematic publicity and defence. Every time criticism of any importance becomes audible it should be met. Though thoroughly and satisfactorily answered, it will probably arise again, and it should be met again. Repetition of complaints, if unanswered, has a cumulative effect on the public mind and on Parliament, and the way to prevent that effect is by repetition of the replies, the information, the enlightenment, and the justification. The day for dignified reserve is over; the day for vigorous

### THE TROUBLES OF AMERICAN RAILWAYS.

All the indications which come across the Atlantic point to the probability of the American railway situation from the financial point of view becoming worse instead of better. A telegram of this week states that an arbitration board has awarded the employees on the eastern railroads an increase of 7 per cent. in wages, amounting to about £1,200,000 per annum. This comes at the very time when the eastern railroads are applying to the Inter-State Commerce Commission for liberty to make a small increase in their freight charges, which at present appear to be as low as any in the world. It is only about two years since the last unsuccessful application of the sort was made, but things from the railway point of view have gone rapidly to the bad since then. The case for an increase of rates seems unanswerable, as wages are continually going up and so are the prices of materials. The situation appears to be becoming so acute that it is quite possible that there will be a revulsion of feeling on the part of the general public in the United States, and that instead of being regarded with prejudice the railway companies may be able to count upon receiving some sympathy. The frame of mind of some at all events of the managers of the great railways in America is indicated in a short article in the *Railway Review*, which is published at Chicago, the greatest railway centre in the United States. In reference to the application by the railways in the central and eastern districts for liberty to impose a 5 per

cent. increase in rates, a traffic manager is reported as saying: "What is the limit? The employees will take all increases faster than they can be granted." This remark was made in connection with new demands by engineers, firemen, conductors, and trainmen on the western railways for advances in wages aggregating 100 per cent.

From the view that the public are beginning to see through the plans of the labour organisations to absorb all railway earnings, and if the people look far enough they will see that these organisations are antagonising not their employers alone, but the whole country. It appears that, owing to the inability of the railway companies to raise sufficient capital for extensions and improvements, matters have now come to a point when the country at large is beginning to suffer. The question accordingly is asked whether it is the purpose of the employees to prevent by their demands any relief to the country. That the situation is becoming desperate is proved by the fact that the suggestion is actually made that if such is the purpose of the employees the sooner the Government take over the railroads and cut down wages to an equitable basis the better. There appears to be a see-saw between the employees of the eastern railroads and those of the western; each in turn demand increases of pay, and each in turn appear to get part at least of what they want. The boards of arbitration which consider such matters appear to act on the same principle as the British Board of Trade generally does when it intervenes in trade disputes, the principle, namely, of settling the disputes by conceding to the employees a substantial part of their demands and of persuading the employers to accept such arrangements as a compromise. Manifestly there are limits to such a process. If railway companies in the United States are not allowed to increase their charges the limit appears to have come now. If, on the other hand, permission is given to raise freight rates, then the employees' demands are likely to continue until at a later time a limit is reached. Apparently the only permanent solution, and it is one which from an economic point of view is undesirable, is that the same authority which limits the rates of charges by the railway companies should also limit the wages to be paid.

## Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways of the United Kingdom for the week ended November 9 gives a total of £2,221,446, which was earned on 21,034 miles, being at the rate of £101 5s. 6d. per mile of line open. For the corresponding week of 1912 the receipts of the same lines amounted to £2,180,371, with 21,857 miles open, or £100 3s. 4d. per mile. Thus there was an increase of £32,075 in the receipts, an increase of 77 in the mileage, and an increase of £1 2s. 2d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £27,109 (or £1 2s. 7d. per mile) in the passenger receipts and an increase of £8,826 (or 3s. 11d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the forty-five weeks in the passenger receipts has been £2,003,923, while the aggregate increase in the goods traffic was £3,006,347. The aggregate receipts of the fifty railways for forty-five weeks (December 29 to November 9) amounted to £105,380,691 in comparison with £98,204,852 last year, an increase of £7,086,109, not including receipts from certain canals, etc.

**Turner's Railway Enterprise.**—The railway companies of the United Kingdom have been asked to contribute to the fund for the relief of the unemployed. As the railway companies are the only ones who can afford to do so, the fund is expected to be a success.

# MONEY AND STOCK MARKETS.

Continuation Days.

Mines .. General .. .. 10  
General .. General .. .. 10

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

## Bank's Coin and Bullion

Notes in Circulation .. .. 1905 P.C.

Open Market Discount .. 5 p.c.  
Bankers' Clearing House .. 54 p.c.  
Silver bars, per oz. (spot) £288.535,000  
Consols (account)  
French 4 per cent. (acc.) .. 86d. 50c. .. 86d. 50c.  
Paris Cheque exchange ..

Rio de Janeiro exchange  
Valparaiso 90-day exch'ge  
Calcutta transfers .. Holiday  
Hong Kong transfers ..  
Shanghai transfers .. 2s. 8d.

3 .. .. Oct. 7, 1909 .. 1.  
4 .. .. Dec. 9, 1909 .. 29.  
.. .. 1910 .. 1910 .. 25.

In these critical times of high rates for money and disorganised stock markets the return of the Bank of England is scanned with even more attention than is usually accorded to it. This week the sum of £375,000 was received from abroad in the form of bars, and only £100,000 was withdrawn for foreign parts, the destination of which was Egypt. The requirements of that country are now believed to be satisfied, and as the project of taking gold for export to New York is understood to have been abandoned partly because the exchange is less favourable to that operation and partly because tentative inquiries as to the possible action of the Bank of England in altering its rate of discount were deemed discouraging the immediate outlook is a trifle easier than when we wrote last week. Something like £347,000 was taken from the Bank for use within the country, but seeing that this may be accounted for by the routine demands in connection with Scotch term-day, and that the high ratio of reserve to liabilities now ruling renders the Bank particularly strong in regard to internal conditions, little importance attaches to this movement. The active note circulation contracted by £230,000, so that the reserve is only down £107,000 in actual amount. The most striking change recorded is the reduction of private deposits by nearly four millions to £28,308,000, a figure much too low to be maintained. Public Deposits were £2,496,000 higher in spite of Government disbursements, owing to payment for Treasury bills referred to last week. Other Government Securities remain the same. The effect of all changes has been to raise the ratio of reserve to the

liabilities of the Bank, nearly two points to 55½ per cent., which is five and a half points above the level that obtained at the corresponding date last year, when the ratio was 50 per cent.

The course of events on the Stock Exchange has not been very cheering; the promise which blossomed at the end of the previous week faded out early on Monday, and a decline then set in which was only checked by the covering operations of bears, after the carry over. Of purchases by the investing public there was little trace, and those who found it expedient to close their commitments on the bull tack were no doubt thankful for the existence of bears to sell to. The recovery, such as it was, nevertheless gave rise to all sorts of proposals for new issues of capital. Some of these have already taken shape, and more remain mere projects. There seems no end to the requirements of borrowers, and on the least sign of resumed activity the markets are immediately overwhelmed with them. What prospect there can be of a permanent improvement in the general level of quotations while these conditions obtain it is difficult to see.

Last Saturday the tone of the markets was appreciably steadier. Consols rose ½ with other Government stocks, and the movement was supposed to be associated with the results of the Linlithgow election. A few rises occurred in Home Rails, and Canadian railways improved a little. Mexicans were lower, and United States securities showed much irregularity, while South American lines fell. The terms of the West Australian loan were published, and found to represent £4.2 per cent. per annum to the subscriber. Notwithstanding this high return the underwriters, as subsequently transpired, were left with about three-fourths of the issue. On Monday, the prospect of more loans proved too much for the bulls, and the somewhat higher level of prices achieved the previous Saturday did not outlast the first half-hour of business. France's requirements, coupled with those of the Balkan States, were particularly before the attention of the markets. Home Rails at once relapsed to former levels, and Canadian railways again declined. The next day the carry-over

of the situation in Mexico, which was assisted by the pronouncements of Mr. Asquith at the Guildhall. This led to repurchases by bears on this side, and a general rise ensued, which made further progress the following day, when the movement was assisted by the firmness of inter-

national stocks. The Home Rail market, however, was not so fortunate, and the movement was confined to the other sections. The Home Rail market, however, was not so fortunate, and the movement was confined to the other sections.

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Name of Stock	Rise	Fall
Ernie Common .....	½	—
Do. 1st Preference .....	—	—
Do. 2nd Preference .....	—	—
Illinois Central .....	1	—
Louisville & Nashville .....	1	—
Missouri Kansas & Texas .....	½	—
New York Central .....	—	—
N.Y., Ont. & Western .....	—	—
Norfolk & Western .....	—	—
Do. Preferred .....	—	—
Pennsylvania .....	½	—
Reading Common .....	1	—
Southern Pacific Com. .....	½	—
Southern Common .....	—	—
Do. Preferred .....	—	—
Union Pacific .....	1	—
Do. Preferred .....	—	—
U.S. Steel Corp. Com. 1½	—	—
Do. 7 p.c. Cum. Pref. ½	—	—

#### Foreign Railways.

Antofagasta Def. Ord. 4	—	—
Argentine Gt. Western .....	xd	½
Buenos Ayres & Pacific .....	xd	½
Do. 1st Pref. .....	—	—
Buenos Ayres Western .....	—	—
Central Argentine .....	½	—
Do. Preferred .....	—	—
Central Uruguay World .....	—	—
Cordoba Cent. Ord. .....	½	—
Do. 1st Pref. .....	—	—
Do. 2nd Preference .....	—	—
Do. 3rd Preference .....	—	—
Cuban Central .....	xd	½
Do. Preferred .....	—	—
Mexican Ordinary .....	3½	—
Do. 1st Pref. 8 p.c. 4	—	—
Do. 2nd Pref. 8 p.c. 4	—	—
Norfolk & Western .....	—	—
Ottoman (Smyrna to Aidin) ½	—	—
Un. of Havana Ord. .....	—	—

#### BANK RETURN.

The return of the Bank of England for the week ended Wednesday, November 13, 1913, is as follows:

Nov. 13, 1913.	BANKING DEPARTMENT.	Nov. 5, 1913.	Nov. 12, 1913.	Increase.	Decrease.
£	£	£	£	£	£
Reserve .....	3,194,518	3,194,518	3,194,518	—	—
Bank of England .....	2,496,650	2,496,650	2,496,650	—	—
Other .....	—	—	—	—	—
Total .....	5,691,168	5,691,168	5,691,168	—	—
Assets .....	1,676,454	1,676,454	1,676,454	—	—
Liabilities .....	4,014,714	4,014,714	4,014,714	—	—
Total .....	5,691,168	5,691,168	5,691,168	—	—
Reserve .....	167,298	167,298	167,298	—	—
Liabilities .....	—	—	—	—	—
Total .....	167,298	167,298	167,298	—	—
Coin and Bullion .....	35,147,140	35,147,140	35,147,140	—	—
Notes Issued .....	53,573,200	53,573,200	53,573,200	—	—
Other .....	28,739,365	28,739,365	28,739,365	—	—

The Bank of England's return for the week ended November 13, 1913, shows a slight increase in the reserve, but a decrease in the liabilities. The total assets and liabilities remain the same.

New Zealand Railway Policy. The New Zealand Times contains the Conservative Ministry's railway "reform" policy. It is stated that the Government intend to spend £2,000,000 on the railways during the next five years. The Government intend to spend £2,000,000 on the railways during the next five years. The Government intend to spend £2,000,000 on the railways during the next five years.

Consols, 2½ per cent. ....	—	—
Barry Deferred .....	—	—
Caledonian .....	—	—
Do. 1st Pref. Con. Ord. ....	—	—
Do. 2nd Pref. Con. Ord. ....	—	—
Do. 3rd Pref. Con. Ord. ....	—	—
Do. 4th Pref. Con. Ord. ....	—	—
Do. 5th Pref. Con. Ord. ....	—	—
Do. 6th Pref. Con. Ord. ....	—	—
Do. 7th Pref. Con. Ord. ....	—	—
Do. 8th Pref. Con. Ord. ....	—	—
Do. 9th Pref. Con. Ord. ....	—	—
Do. 10th Pref. Con. Ord. ....	—	—
Do. 11th Pref. Con. Ord. ....	—	—
Do. 12th Pref. Con. Ord. ....	—	—
Do. 13th Pref. Con. Ord. ....	—	—
Do. 14th Pref. Con. Ord. ....	—	—
Do. 15th Pref. Con. Ord. ....	—	—
Do. 16th Pref. Con. Ord. ....	—	—
Do. 17th Pref. Con. Ord. ....	—	—
Do. 18th Pref. Con. Ord. ....	—	—
Do. 19th Pref. Con. Ord. ....	—	—
Do. 20th Pref. Con. Ord. ....	—	—



## ELECTRIFICATION OF SUBURBAN AND TRUNK LINE RAILWAYS.

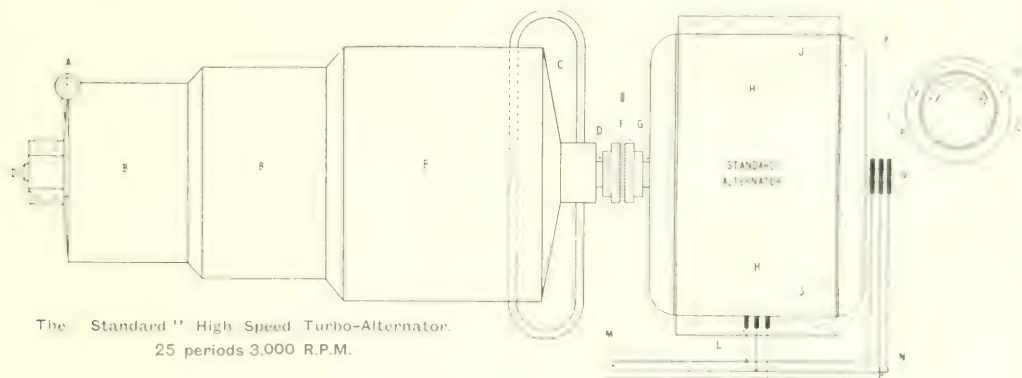
STEAM TURBO-ALTERNATOR CONSTRUCTIONAL DETAILS.

By WILLIAM P. DORRILL, M.E. and J. M. LAMONT.

More and more, the railways of this country are turning to electricity being used for all classes of railway traction under the most diverse conditions. There are at least six different systems of electrification proposed, and these are in use in various parts of the world. There is, first, the system known as the "low-tension d.c. system," operating over short distances; secondly, there is the "high-tension d.c. system," about to be tried in this country. Thirdly, there is the medium pressure single-phase a.c. system in operation at 6,000 volts on several lines in England. This system has the advantage of simplicity not only in the generation of the current as far as the power station plant is concerned, but also in the method of distribution, transformation of transmission voltage, and easy and reliable collection at the trains with small surface contact, etc. The extra high-tension single-phase alternating current system, operating at, say, 11,000 volts pressure, has the advantage of using the current direct, as generated, on the trains, as well as reducing the cost of overhead equipment and rail bonding methods. We also have a most satisfactory three-phase alternating current system in operation, and this system offers many advantages, especially bearing in mind that recuperation of the kinetic energy of the trains

into the power supply. One of the chief advantages of this system is that it is possible to use the same power for traction and for lighting, and that the starting torque is also higher per kilowatt input. It is true that the efficiency of the system is lower than that of the d.c. system, but the latter is only the system for the purpose of traction, and the former is a system for the purpose of traction and for lighting. The system of frequency changers to the standard required from the 15-period supply. In each case the most important thing will be to provide the main current for train haulage at the best efficiency so obtained for the purpose of traction.

In the ordinary state of affairs as existing to-day, and in the event of the non-appearance of a more powerful unit in the form of an internal combustion engine or the long promised gas turbine, there is not much doubt that the high speed, high pressure, superheated steam turbine has come to stay. But there are limitations to the commercial application of the steam turbine in this case, and there are serious difficulties in the way of the adoption of the ideal low frequency of, say, 15 periods, because in the case of the steam turbine (in the ordinary way) a revolution speed of 600 r.p.m. is the highest speed at which a two-pole electrical generator can be run for that frequency, and consequently the steam



is easily brought about with such great efficiency. Then we have the later proposal wherein the whole energy for the propulsion of the train is carried on the locomotive itself, and in which the efficiency of the internal combustion engine is to be utilised for the direct propulsion of trains through the medium of an efficient electric motor. This method will have more than passing interest as soon as it is in operation in about twelve months from now on a very important long distance railway in the Colonies.

## AT WHAT FREQUENCY?

Very little has so far been said in this country as regards the standard frequency to adopt in the case of the application of either single-phase or poly-phase current operated railways. This point is of the most vital importance. The matters of the standardisation of the frequency, and of the kind of current to be used in the case of electrification, are of the same order. How ridiculous it would be if the Government bought up the railways, and had to undertake an enormous expenditure for changing the plant in order to come under one set frequency and current, also in order that the same type of locomotives and rolling stock shall be able to operate at any part of the country.

Although there are at work several electric railways in which the frequency has been chosen, it is open to discussion whether this 25 cycle current is the most valuable item in the chain of problems presenting itself in all schemes of electrification. It is true that the current can be generated at the power station with great efficiency in the turbines, but there are other things that come

consumption per kilowatt hour would be excessive. In fact it would be lower in the case of the application of the ordinary quadruple expansion reciprocating steam engine; and again limitation takes place owing to the extra space occupied by these, relatively speaking, slow speed prime-movers; and which

ships at sea. The steam turbine showed up to a greater efficiency because of its smaller space and lighter weight than the same vessel speed produced by means of the well-tried reciprocating steam engine, especially in high-speed vessels; and it is for the same commercial reasons that the general adoption of the steam turbine is taking place at the present time in the power stations on shore for the transport of the passengers and goods by electricity at the higher frequency.

The limitation of the turbine, so far as it is affected by the low revolution speed essential when driving the generators at the speed of 600 r.p.m. for the generation of 15-cycle current, is now got over by the invention of an interesting new type of turbo-alternator, now being placed on the markets of the world by the "Standard" Engineering Association, 76, Finsbury Square, London, E.C. 2.

Its use the turbine may be run at a much higher revolution speed for given frequency than is possible with the ordinary methods of generator construction, and in this particular application 15-period current can be generated at a revolution speed of 1,800 r.p.m., giving a much higher thermal efficiency in the turbine than at the revolution speed of only 600 r.p.m., and consequently the steam consumption per kilowatt hour is considerably reduced. The number of boilers,

chimney area and many other items are also reduced per unit

It is a pity that the railway is not able to deliver to the farmers the above items in the quantities they require. This is due to the fact that the railway is in a capital outlay position and is not able to invest in the necessary power stations. Hence, apart from the lower operating costs per unit generated, which is covered during the life of the plant, this is of vital importance now that railway directors and managers are the culprits.

[illegible]

### THE LAY OUT OF THE PLANT.

The illustration shows the layout of the plant as given for the generation of three-phase alternating current at a frequency of 50 periods per second, with a winding on both the stator and rotor for two magnetic poles. Steam enters at A, and is carried by the two main stages B, B', B'', to the exhaust stage C, which is connected to the condenser. The power shaft D delivers the mechanical power from the turbine drum to the generator, shown at E. This coupling is described in the RAILWAY TIMES of October 1st, and is also of special interest inasmuch as the torque is taken on springs in the form of flexible rods, which are shown at F. The torque is delivered to the generator belt coupling G, which is hydraulically forced and keyed on to the alternator shaft H. The rotor of the alternator is shown at I, the windings on which are connected to the slip-rings shown at L. The rotor, like the stator, is wound for the p.p.s., and for the same voltage between phases the stator is shown at J.

between phases. The time which is considerable, is shown at the dotted line in Fig. 1. The two spots, starting at the same point, up at the terminals, have at  $t_1$  which are separated by the masses  $M$ . It will be noticed, that the masses leading to the rotor are separated at two of the phases at  $N$  on the way to the sliprings  $L$ . This ensures that the resulting magnetic flux in the rotor is the same, travels round in the iron at a speed of approximately in the direction marked at  $O$ , while the magnetic flux in the iron of the rotor travels round at a speed of also approximately in the direction marked at  $P$ . The rotor is driven in the direction in the direction marked at  $Q$ , and the speed of rotation is such that the rotor is driven round the stator, so that the rotor is driven in both stator and rotor, making it, in the end, a self-excited high speed motor. The axes of the rotor are shown in the position of the rotor in the same direction as the direction of the rotor, and this is resulting.

The rotor is also excited by a separate supply, which only provide the small amount of magnetising current required for the rotor and some for the stator, and in the case of Stv, a 10000 kVA synchronous generator, the rotor provides 500 kilowatts and the rotor a like amount of the total current.

is increased for running up other similar size generators in the same power station. Steam is then turned on at A, and the generator immediately begins to supply electrical energy through to the busbars by way of the mains M, from local motor and station. It will be readily seen that the troubles caused by the function of synchronising in the ordinary manner are avoided and the machine put to work in a much more efficient and safer manner, which will be appreciated by all power station engineers and administrators.

which, since the cost of the turbine is very high, is developed, and the cost of the generator is much less, not only because of the fact that it is run at the higher speed, but also to the electromagnetic design of the generator being superior to that present in the make of given output. To the designer this will be evident, for the first case, say, for a 1,000 kilowatt size, the stator is only wound for 500 kilowatts, and the extra room results in less room is taken up for the windings, which for given air-gap diameter reduces the length of the teeth in both stator and rotor. This in turn reduces the amount of bulk iron required, as the teeth width is greater as well as shorter, so that the total external diameter is smaller for given air-gap diameter and pole face area.

The consequence is that the total electromagnetic generation becomes negative, and the number of hot electrons to be deposited in the generator by means of forced draught is lower, and the mass revolving is smaller than in the case of the ordinary type of the supported machine. Owing to the fact that the positive ions are possible in this period machine, on account of its turning as a synchronous generator, no longer is set up in cases where the rotation is run above the shaft critical speed.

In cases where there are no other synchronous machines on a network, the frequency, essential for automatic excitation, is coupled in the end of the alternator power shaft G to supply the magnetising current for the stator and rotor of the main machine, and this type of turbo-alternator is being put on the markets by the above firm in sizes of from 30 to 2,000 kilowatt in sizes, the tables used being of many types, including Parsons, Curtis, Bergmann, Zerkly, Ratatau, De Laval, Terry, and many other well-tried and developed type of steam turbines. The designs of generators are also suitable for being driven by reciprocating prime-movers such as Diesel and other internal combustion engines, water wheel and turbines, steam engines of various makes and outputs, and sound guarantees can be given for satisfactory working and high-

The machines are specially suitable for the heavy work of generating current for the railway traction, and there is not much scope for an analysis having seen rather interesting results with the variable speed and machines at work, to which I propose to refer at a later date.

### FIREPROOF CARRIAGES ON THE METROPOLITAN DISTRICT.

The Metropolitan District Railway claims to have incorporated all its rolling stock without the elimination of woodwork and the structural and decorative advantages which woodwork affords. The method of fireproofing is the same as that now being employed by the British Admiralty. This consists of the impregnation of the pores and fibres of the wood with chemicals such as render the wood absolutely flameproof. The process, which is at present carried out exclusively at the works of the Timber Fireproofing Co., Ltd., Fulham, produces a result which the Admiralty tests show to be beyond question. The wood so treated is said to lose none of its natural characteristics, and has no harmful effect upon glues, nails, varnishes, or metal fittings with which it may be brought into contact. The charge for fireproofing is stated to be three shillings per cubic foot.

### REPORTED AGREEMENT AMONG SCOTCH RAILWAYS.

It has been reported from Edinburgh that as the result of protracted negotiations, an arrangement has been come to among the three principal Scottish railway companies with the view of reducing unnecessary expenditure. The negotiations have been directed mainly to the minimising of competitive traffic. As the result of conferences that have taken place, an agreement has been drawn up which provides for the pooling of the bulk of the competitive traffic. The increased cost of the pooled traffic will be distributed in certain agreed proportions.

# NEW ZEALAND GOVERNMENT RAILWAYS.

The annual statement by the New Zealand Minister of Railways, the Hon. W. H. Herries, as to the results of the working of the undertaking during the year ended March 31 last shows that the revenue has maintained the buoyancy that has characterised it during recent years, and the earnings have exceeded the estimate of £204,493. The following table is a summary of the results, along with a comparison with the preceding year:—

PARTICULARS.	YEARS ENDING—	
	1912.	1913.
Total miles open for traffic .. ..	2,868	2,860
Average miles open per train .. ..	1.8	2.24
Capital cost of open lines .. ..	£3,511,100	£3,811,100
Capital cost of open lines .. ..	30,500,080	30,500,080
Capital cost per mile of open lines .. ..	10,804	10,804
Gross earnings .. ..	£3,070,500	3,070,500
Working expenses .. ..	2,705,000	2,705,000
Net profit on working .. ..	1,210,613	1,210,613
Percentage of profit to capital invested .. ..	3.08	4.04
Percentage of working expenses to gross earnings .. ..	88.1	88.1
Earnings per average mile open .. ..	£1,314	1,314
Working expenses per average mile open .. ..	881	881
Net earnings per average mile open .. ..	433	433
Earnings per train mile .. ..	105.25	105.25
Working expenses per train mile .. ..	70.52	70.52
Net earnings per train mile .. ..	34.73	34.73
Passengers, ordinary .. ..	11,801,134	11,801,134
Season tickets .. ..	230,957	265,259
Goods tonnage .. ..	5,509,750	5,509,750
Live-stock tonnage .. ..	288,152	289,123
Train mileage .. ..	8,371,087	9,010,224
Locomotives .. ..	493	493
Passenger-cars .. ..	1,212	1,212
Wagons and brake-vans .. ..	18,521	18,521

The increased train mileage represents additional facilities to meet the requirements of the business and public convenience and has cost over £193,000. Floods and slips of a heavy character occurred on several occasions during the year, and caused considerable interruption to the train services. The following figures, which give the record of the late arrival of the principal trains, indicate that notwithstanding various alterations made in the train services and the difficulties in connection with floods, slips and other unavoidable circumstances, the trains as a whole maintained punctuality.

	Average	Loss of Time
For long-distance passenger trains .. ..	1.0	1.0
For suburban trains .. ..	1.0	1.0
For long-distance mixed trains .. ..	2.58	2.00

The average number of men employed during the year was 14,213 against 13,523 for the previous year. The sum of £12,616 was paid during the year under the Workers' Compensation for Accidents Act. 104½ miles of track were relaid. Ballast to the extent of 26,000 cubic yards and 235,378 sleepers were put into the track during the year. Difficulties experienced by shipowners in respect to labour prevented the department from getting delivery of sleepers contracted for, and this materially retarded relaying operations. A considerable number of improvements have been carried out at various stations. 1,504 miles of line are now controlled by the electric tablet system, and 30½ miles of double track by the electric lock-and-block system. The expenditure on the various adjuncts to safety since 1901 has amounted to £1,000,000.

The increases of the various departments were as follows:—Passengers, £128,514; season tickets, £14,244; coaching traffic, £11,875; goods and live stock, £124,902; miscellaneous, £14,958. The receipts per train mile from the North Island main line and branches were 8s. 1½d., a decline of 2½d. compared with the previous year. The net revenue per train mile was 2s. 7.3d., a decline of 3.46d. From the South Island main line and branches the gross receipts per train mile were 9s. 2½d., an advance of 5½d., and the net receipts advanced

10p. 10d. The gross revenue amounted to £1,000,000, open, and gave a return of 4.04 per cent. on the capital cost. This return was the highest but one ever earned by the New Zealand Railways.

In regard to the expenditure for the following year, the estimate is £2,705,000.

Department.	1912.	1913.
Salaries and wages .. ..	£1,800,000	1,800,000
Stores and materials .. ..	200,000	200,000
Maintenance .. ..	100,000	100,000
Depreciation .. ..	100,000	100,000
Other .. ..	105,000	105,000
Total .. ..	2,705,000	2,705,000

The increased expenditure in the traffic branch was due to the additional train mileage, increases in salaries and wages, extension of tablet system and extra staff required to carry on the increasing business. In the locomotive branch the increase was due to extra train mileage, additional staff, advance in salaries and wages and the prices paid for fuel, stores and material. The cost of maintenance of lines buildings, etc., had increased from £263.46 per mile of railway to £263.46.

Special and sustained efforts are being made to build rolling stock with despatch, so as to keep pace with the demands of the traffic. The programme for 1913-14 comprises 65 bogie cars, 19 bogie brake-vans, 68 bogie wagon and 522 four-wheeled wagons. The total rolling stocks actually under order comprise 44 locomotives, 108 cars, 27 brake-vans, 113 bogie wagons, and 1,475 four-wheeled wagons.

The investigations made into the results of the motor-car experiments carried out by other railway systems has shown the wisdom of proceeding cautiously in regard to ordering motor-cars for use on the New Zealand Railways. As a consequence, however, of the satisfactory result of extended trials on the South African lines two cars have been ordered for trial purposes on the New Zealand Railways.

The advent of road motor vehicles has materially altered the conditions in respect of railway crossings. During the year there have been a number of accidents on crossings, and with a view to providing additional safeguards the Minister of Railways has given instructions for the designing of automatic signals for use on railway level crossings. It is proposed to install them on the busier crossings only at the outset. In view of the indifference persons in charge of vehicles display, more stringent measures will require to be adopted in the interests of public safety and heavier penalties pressed for in future cases where breaches of the by-laws are committed.

During the year Mr. Herries has made investigation as to the causes for the percentage of working expenses to earnings being so high, and finds that the main factors are increased wages and shortening the hours of the staff, increased train services by running trains for experimental development, many of which are unremunerative, opening new sections of railway in undeveloped country, and additional staff necessitated by the expansion of interlocking and safety appliances. The rates paid for fuel, stores and materials have advanced in sympathy with the improvement which has taken place in working conditions and wages in foreign countries and foreign and local industries. New Zealand is by no means singular in respect to the advance of percentage of operating expenses and earnings. In most cases of the Australian States the increases have been greater than those in New Zealand.

Mr. E. H. Hiley was selected out of 104 applicants to fill the post of general manager. Mr. Hiley would shortly arrive in the Dominion and take up his duties. The thanks of the Dominion were due to the retiring general manager for his long and faithful services.

Having given careful consideration to the general circumstances of the Dominion, Mr. Herries feels confident of continued prosperity during the current financial year, and he estimates the revenue at £1,200,000, and the expenditure





found by experience that for some months in the year the through train service and the connecting service on the branch lines in the province are liable to become disorganised and considerable extra expense entailed by the delay of the ferry across the river. The reduction of the length of the ferry route will incidentally, will enable us to obtain a greater number of round trips from our three ferry steamers, and thus avoid, for some time to come, the necessity which otherwise there would be of adding to the fleet. The line we propose to construct from the new terminal will enable us to make a physical connection with the Cordoba Central Railway, and will give us thereby access to passenger and cargo stations at Retiro, which is the best possible position in the city of Buenos Ayres. The working arrangements we have in view will not only obtain for our railway the use in perpetuity of these terminals, but will also provide that our trains shall be worked through to the city of Buenos Ayres.

The Argentine North Eastern system must also be greatly benefited by these improvements, as that company serves the ports of Goya, Empedrado and Corrientes, on the River Paraná, and Posadas, on the River Alto Paraná, and a good share at least of the through trade of these places and of their locality as well as Paraguay, now mainly carried on by river, should be secured by a united effort, aided by what will be our stronger position in Buenos Ayres. We have had our differences in the past with the Argentine North Eastern Company, but there is now a reasonable prospect of a permanent settlement. These differences we have done our best to avoid, but I think our shareholders, who with us look askance at the line paralleling ours between Concordia and Concepcion del Uruguay, need not now fear the building of any further competitive lines by our neighbours within our own traffic zone, which we are fully capable of serving. But there has been another reason that has led us to make an investment in the Argentine North Eastern in order to secure for you an effective voice in the combined policy of the two companies. I refer to the threatened diversion to the river of the traffic that can be efficiently and economically carried by land—a diversion which might give, under a rate war, some temporary advantage to one or the other side, but which in the end would only serve, we feel convinced, to weaken the resources of both. We maintain that if the best results are to be obtained by the railways forming the international route between Buenos Ayres and Asuncion, and if the Argentine Government, which has made great financial sacrifices in order to secure for the country the advantages of the through railway connection, are not to be disappointed in the result, each company concerned must work in full accord with the other and by united effort aid the prosperity of all. With our experience before us, and with a knowledge of the requirements of the country, we feel we are obliged to discourage any combination which might serve to weaken any link in the international chain of railways, and we feel that we have taken the safest and surest means to insure against that by acquiring the interest we have in the Argentine North Eastern. The interests of that company in any circumstances will, of course, be respected, and it is our intention and our obligation to promote in every way the welfare of that company, in which we own such a great stake.

As regards the long outstanding negotiations for the purchase and the completion of the Government lines in Entre Rios, we are extremely anxious to avoid committing you to any expenditure beyond what is absolutely necessary to consolidate your position in the country, but at the same time we appreciate that if that is to be fully protected we must work to the best of our ability in accord with the wishes of the

without prejudice to your interests. In this matter we have endeavoured to follow this principle, and, by an arrangement for the payment at the end of a number of years for the line

possible to meet the case and continue slow, the construction without over-hardening our finances. We have, therefore, advised the Government that we are ready to assume the responsibility of their new line if Congress decides in its wisdom to hand it over to us. There is only one further reference that I wish to make, and that is to the completion of the railway connection with Paraguay. A regular train service passing to the heart of Paraguay from a progressive State like the Argentine will, I am sure, serve to encourage the population of that beautiful country in the pursuit of more peaceful occupations than those with which it has been over-concerned in recent years, and our trade with that country should therefore rapidly develop under this new and important influence. As regards the prospects for the current year, so

in the gross and net figures, although the final results will depend in a great measure on the outcome of the crops which will be gathered during this and next month. The latest advice that we have is contained in the following cable, dated the 9th instant:—

"Goods and passenger traffic well maintained; population and trade in the provinces increasing very satisfactorily. Important new interchange and international traffic opening up owing to new connection with the North. Present general condition of crops good and promises abundant harvest; area sown wheat, linseed, barley and oats calculated not less than 1,750,000 acres, increase of 17 per cent. over last year. Sowing of maize proceeding actively; crops and stocks in excellent condition. Prospects considerable expansion in all traffic during the year."

Lord FARRER seconded the motion and it was adopted, and the recommended dividends were declared.

#### NORTH WESTERN OF URUGUAY RAILWAY.

following results:—Receipts, £77,680; expenses, £53,795; balance, 23,921. To this must be added: Balance from last account, £343; interest on 4 per cent. bonds, £10,723; and deducted interest on first debenture stock, £24,000; interest on second debenture stock, £3,207; income-tax, £478; depreciation on steam launch, £102; carried to rolling stock renewals fund, £2,000; written off debenture issue account, £350;

receipts have increased by £3,087, the expenses have increased by £4,047, resulting in a decrease in the net receipts of £960. In view of the probability of further additions to the rolling stock being required before long, a sum of £2,000 has been transferred to rolling stock renewals fund. Having regard to the greatly diminished demand in Brazil for Saladero products, which constitute a substantial portion of the company's traffic, the directors recommend that a dividend at the rate of 2½ per cent. be paid on the 6 per cent. first preference stock, and that the balance be carried to next account.

#### Rioyar Railway.

Winchester House, E.C., Mr. J. S. Austen, who presided, said that they were that day recommending the payment of the first dividend ever declared upon the ordinary shares of the company. That represented the first fruits of expenditure over many years and much toil on the part of all concerned. The dividend was only 2 per cent., but it was not all they could have recommended. The net earnings, after payment of the preference dividend, were about £34,000, and as the ordinary dividend only required £14,000 they were left with

continued to be satisfactory, but, of course, the expenditure more. Satisfactory progress had been made during the last five years. The gross receipts in that period had risen from

progress with the construction of the branch line to San Felipe. They had expended £10,234 upon the development of their estates, and considerable progress had been made in clearing and planting. He spoke of the generally favourable conditions which were ruling in Venezuela; and the report was adopted.





## TRAIN SERVICE BETWEEN ARGENTINA AND PARAGUAY.

The company of boats to the south of the international frontier, the *Entre Rios* Company, which is a subsidiary of the Argentine North Eastern Railway, has arranged to provide a direct international train service between the Argentine North Eastern Railway and the Central Railway of the Province of Buenos Aires. They proceeded over the lines of the *Entre Rios* Railway Company as far as Monte Caseros, where it continued on the Argentine North Eastern lines via Monte Caseros to Posadas. At the last-named point it was conveyed by the ferry-boat service across the Alto Paraná to Villa En-



Route of Direct International Train Service between Argentina and Paraguay.

completed over the Central Paraguay Railway to Asunción, which was reached on October 15, after a rapid and very comfortable run. This new direct service will undoubtedly contribute to increase of commercial relations between Argentina and Paraguay to the mutual benefit of both Republics.

At the meeting of the *Entre Rios* Railway Company held in London on Wednesday (as reported in our present issue) the Chairman made reference to the opening up of this through route and to the benefits it is likely to confer.

## THE RAILWAYS ROYAL COMMISSION.

The recently appointed Royal Commission to inquire into

London. Lord Londesborough was in the chair, and all the Com-

relationship between the railway companies of Great Britain and the State in respect to matters other than the safety of working and conditions of employment, and should report what changes if any were desirable in that relationship. The Commission would be glad to receive evidence or suggestions within the scope of the reference. The Commission were receiving numerous representations from individuals as well as from associations in regard to rates and to the facilities or accommodation provided by or expected from the railway companies. It was not the Commissioners' function to adjudicate on the merits of particular disputes or differences between the companies and their customers, and they did not propose to do so. They were, however, ready to receive evidence as to the kinds of disputes or differences which arose and as to the judicial and administrative facilities at present available for settling them. They would be glad to receive suggestions if any were made for altering or supplementing this machinery so as to secure a proper consideration of public requirements and an expeditious method of dealing with complaints. They would also be glad to know if existing conditions pressed hardly on the railway companies. Evidence

The Commission hoped that as far as practicable the evidence as to complaints against the present system would be given by persons or associations who spoke in a representative character.

Mr. W. F. MARWOOD, C.B., assistant secretary to the Railway Department of the Board of Trade, was the first witness. Replying to the Chairman, he said that the events leading up to the appointment of this Commission might be traced back to the increased cost of working railways which took place in the nineties. In 1880, the percentage of working expenses to gross receipts of British railways was 52, and it had been at that point for about ten years before. In 1900 it had risen to 62 per cent., and it had not fallen below that level since. Meantime, the rate at which capital was being created showed no decline, and the result was a somewhat marked fall in the profits. Whatever might have caused the change in the cost of working, one result was certainly that railway companies thought it advisable to restrict competition in several directions. They had pooled competitive traffic, cut down duplicate services of trains, and abandoned various forms of competition. The process inevitably caused and still caused a good deal of dissatisfaction.

than anything else. In order to secure traffic the companies had given compensation in the case of damage to goods carried at owners' risk. The position early became that the

and they set up a Committee before which all claims for damages for loss of goods carried at owners' risk came. There

to have their goods carried at the low rate were now dis-

by the Great Northern, Great Central, and Great Eastern

conditions imposed by the Government. A Departmental Committee appointed thereafter, and presided over by Mr. Russell Rea, reported in effect that the tendency to combination among railways was in the main salutary. They considered that the best course was explicitly to legalise agreements between railway companies where there was any doubt, and make provision in the general law to protect the public against any possible abuse. The amendments recommended by that Committee were embodied in the Railways Bill of 1912, which, owing to opposition by traders was withdrawn. Connected with the Bill was also the question of the settlement of the grievances of railway employees. Under the settlement of 1911, the Government, in return for the companies assenting to the new Conciliation Scheme, promised to introduce legislation, providing that increased labour costs on railways should be treated as a valid justification for an increase in railway rates. A clause to carry this out was inserted in the Railways Bill of 1912, and after that Bill was dropped the clause was embodied in an altered form in the second Railways Bill, which was afterwards passed as the Railway and Canal Traffic Act, 1913. After that Act was passed the companies gave notice to raise their rates by about 4 per cent., class rate and coal rates excepted.

The effect of the increase was, he thought, a good deal of discontent among the trading community. How far it was technically justified would be determined by the Railway and Canal Commission. He thought that traders took the view that if economies which the companies had effected were properly brought into account, there would be no need of any large increase, or, at any rate, not so large an increase as 4 per cent.

Continuing, the witness said he thought that steps were being taken to bring the matter before the Railway and Canal Commission. Before that could be done a certificate of the Board of Trade was required, and the Board had issued several such certificates. How far the proceedings had reached he did not know. In reply to a suggestion from the Chairman, Mr. Marwood then gave a summary of legislation on the subject of railway rates since the days of the original arrangement under which the maximum charges were set out in the private Acts authorising the railways. He explained the provisions in the Acts of 1845, 1854, 1873, and 1888.

Asked whether there was at present much dispute or complaint about undue preference, Mr. Marwood said he thought there were a good many cases before the Court. The chief complaint was from inland traders. He thought that dissatisfaction existed as to preference to importers of goods. It appeared to be a common belief that there was such a preference. Referring again to legislation, he pointed out that the Act of 1894 required railway companies to justify as reasonable any increase of rates if the question was brought before the Railway and Canal Commission. An increase of 5 per cent. in class rates went before that Commission in 1900, and the Commission decided that the whole of the increase was not justified, but that an increase of 3 per cent. was justified. In other cases also increases had been allowed of a less amount than the railway companies had asked. Competition between the companies had no doubt affected rates, and though the competition was not now so strong, the rates remained in the existing Acts. Though the competition between the railways was diminishing, they had to meet a new and growing competition, that of road motor vehicles.

Any sort of competition could be considered by the Railway and Canal Commission, he thought, that is so. They have considered water competition.

On the subject of preference rates being given to imported goods, he said that there had been allegations that imported farm and dairy produce had been unduly preferred. That was investigated by a Departmental Committee in 1904. That Committee reported in 1906, and found that no undue preference had been proved to exist—that that was to say no preference which was not explained by continuity of traffic or by competition. There had been only one case in which the Railway and Canal Commission had found that there was an undue preference. The witness next explained the statutory powers of the Board of Trade in regard to railway rates and as to appointing an arbitrator to settle disputes on a variety of subjects. There were in all three methods of bringing about settlements—the Railway and Canal Commission, an arbitrator, and administrative inter-

ference by the Board of Trade. If the Board of Trade should desire to make any suggestions as to simplifying procedure before the Railway and Canal Commission, they would prefer to do so at a later stage. An arbitrator's award could be taken into Court, and in one instance such action was carried as far as the House of Lords. He thought the efficacy of the Board of Trade as conciliators would be impaired if they also had the duty of judges.

The only foreign country which could be compared with Britain in regard to the settlement of railway disputes was the United States. The conditions there differed greatly from those in this country, but the original machinery was founded on that of Britain. There were no maximum rates in the United States, but an Act of 1887 to regulate commerce prohibited undue preference and all unjust and unreasonable charges. That Act set up an Inter-State Commerce Commission, a body combining judicial and administrative functions, corresponding partly to the Board of Trade and partly to the Railway and Canal Commission. The Inter-State Commerce Commission could decide whether a rate was unreasonable, but at first they could not fix a rate. In 1905, however, an Act was passed giving the Commission power to fix rates on complaint being made. Then, in 1910, an Act was passed enabling them to fix rates on their own motion. The same Act set up a new Court, called the Commerce Court, by which appeals could be heard from the Inter-State Commerce Commission. The Commerce Court had disagreed largely with the Inter-State Commission, but the Supreme Court had re-asserted the powers of the Commission more than once. Last year a Bill was passed by Congress with the object of abolishing the Commerce Court, but the President of the United States vetoed the Bill. In this country we had the distinction that where a rate was within the maximum and applied to one company's lines and had not been increased, it could not be brought before the Court. In Canada, a Railway Commission was set up in 1903, somewhat of the American type. That Commission had drastic powers, but it had to be remembered that the Government of Canada had contributed largely to the construction of the railways. He had not details of the Canadian arrangements by him, but promised to get them.

The witness, in reply to the other Commissioners, amplified his statement on several points, and the Commission afterwards adjourned.

### LECTURE ON RAILWAY ACCIDENTS.

At the York Railway Debating Society's meeting on Tuesday, Mr. H. V. Anderson, from the Paddington Station of the Great Western Railway, in the course of a lecture on railway accidents and how to prevent them, said that although British railways carried more passengers than the German State Railways, the number of passengers killed on the German lines was more than in the United Kingdom. The number of passengers and railway servants killed or injured in accidents connected with train movements on the Great Western, the London and North Western, the Midland, and the North Eastern for the six years ending 1912 showed that the North Eastern fatality figure was the lowest of the four, having regard to the number of passengers carried. The number of servants killed also compared favourably with the others, but in regard to passengers injured the figure was not so favourable. Dealing with the advocacy of automatic couplings, Mr. Anderson said that the accidents in America were more numerous, being 17 to 1 in fatalities, and 5 to 1 in injuries, and this was not calculated to carry conviction as to the great safety of automatic couplings. The Board of Trade was now considering various appliances to enable shunters to couple and uncouple from the side of the wagon without the use of a coupling-pole.

**North Wales as a Winter Resort.**—The persistence of the London and North Western Railway Company in advertising the advantages of the many picturesque resorts of North Wales as places of residence for both the healthy and the ailing is again testified to by the current issue of the well designed and carefully-illustrated brochure dealing with that locality. Medical writers are responsible for a great portion of the literary matter.

# GENERAL NEWS.

## MIDLAND RAILWAY AND THE RAILOPHONE.

By connection with the Midland Railway Company to install the Railophone on a section of the line between Leicester and Nottingham. The International Railophones, Ltd., informs us that as a consequence of the successful trial of the Railophone carried out in June, 1912, at Stratford-on-Avon, in establishing signalling communication between running trains and stations, he was called to Berlin to explain the Railophone to the German Imperial Railway experts. The result was that within a few weeks after the Stratford demonstrations, an order for a Railophone plant was placed with the International Railophones, Ltd., by the German State Railways, and this plant has since been inspected and found satisfactory by the Railway Minister, Herr von Breitenbach, who gave an extension order for ten times the original length. In this country the Midland Railway Company, after prolonged and serious consideration, also selected the Railophone from a number of automatic safety signalling inventions placed before them. In this connection it may be mentioned that for the past two years, and simultaneously with the development in Germany, the Midland Railway Company rendered valuable assistance to Mr. Von Kramer in the design of a railophone system for British railway practice, and Mr. J. Sayers, telegraph superintendent of the Midland Railway, was to a large extent responsible for the introduction of several important items in the installation now being erected near Derby.

The installation which the Midland Company are installing on a portion of their main line near Derby comprises one complete unit for one "up" and one "down" distant signal for the purpose of safeguarding trains from over-running danger signals. With the Railophone system the driver on approaching any distant signal receives by means of a compressed air whistle fitted on the engine cab three short warning signals in rapid succession. These signals are given irrespective of the signal being "clear" or at "danger," the driver being thus advised, as it were, "to watch out for the signal." If the distant signal is "clear" the train proceeds without further interruption. Should, however, the distant signal be at "danger," the three approach signals are followed by a fourth prolonged signal and the brakes are applied automatically. This fourth signal and automatic operation of the brakes only take place if the driver has failed to apply the brakes and stop the engine in the ordinary way after the three warning signals have been given. Therefore the result of this fourth or danger signal is that the train cannot enter the occupied section. For example, says Mr. von Kramer, the recent accidents at Aisgill and at Melun, France, would have been averted had the Railophone been installed.

In regard to the scientific side of the Railophone invention Mr. von Kramer collaborated with Professor Dr. Gishert Kapp, of the Birmingham University, and they conjointly designed the chief apparatus which makes the Railophone a practical success. The instrument in question is known as the "K.K." Detector and it records the inductive signals received on the train. The "K.K." is described as undoubtedly the most sensitive detector known, and it has already been put to many useful purposes outside the Railophone system. For instance, the "K.K." records sound waves and converts them into mechanical forces, it also registers extremely fatigued telegraphic signals, coming through long distances. It has also been used experimentally for ringing an electric call bell by wireless currents.

A Railophone signalling plant consists of two electric circuits, of which the one is the stationary or ground circuit, the other the movable or train circuit. In the former an electric cable is laid underground all along the railroad outside of the permanent way and running parallel with the rails. An electric current is constantly maintained in this underground conductor, and this current by its nature causes a stress upon the surrounding earth, and, figuratively speaking, the railroad and any trains running parallel to that underground conductor are enveloped in a constantly vibrating "etherical electrical tunnel." There is an "up" tunnel and a "down" tunnel, each of them being capable of separate control.

The train equipment consists of a large coil of insulated

the train and any part of the stationary circuit. The current received on the train is utilised by the "K.K." detector to

being applied and the air-whistle from sounding. Should, however, the "tunnel" for any reason collapse either intentionally for the purpose of control or accidentally through any breakage occurring, the electric current in the frame end ceases, with the result that the danger whistle sounds and the brakes are automatically applied. The collapse of the "tunnel" can be pre-determined for shorter or greater distances by special methods of laying the underground

signal to interrupt the otherwise continuous "tunnel" for three short spaces at equally short intervals, and so cause the whistle to be sounded on the train whenever the engine passes into these three short non-inductive spaces. Following these three "approach tunnels" is a fourth "collapsible tunnel," of greater length, and which can be made inductive or non-inductive at will by the distant signal itself. If, for instance, the latter is "clear," the adjoining fourth section remains effective, and as the road is then given "clear," no fourth signal is recorded on the engine. If the signal is at "danger," the "tunnel" just in front of the distant signal is made non-effective and the train is brought to a standstill.

Power can also be given to every signalman to stop every train from his signal box in emergency cases by opening a sealed switch and thus interrupting the ground current, causing the "tunnel" to collapse. By the same means, the Railophone can be used to warn drivers when approaching dangerous curves, special crossings, bridges or tracks under repair, temporary breakdowns or gangs of platelayers. In countries where stations are very far apart and where trains run for several days and in some cases for weeks before they reach their destinations, the Railophone system can also be utilised for telephonic or telegraphic communication between the passengers and passing stations. The Railophone, it is contended, will give to the train service the same advantages, almost on a wider scale than wireless telegraphy has given ships at sea. The International Railophones, Ltd., of Birmingham, have obtained over 100 patents in over thirty countries.

Mr. H. A. Thomson, an electrical engineer at Glasgow, has patented an electrical cab signalling appliance. It is to be fitted between the rails and is operated by another appliance fitted to the engine. If the signal is clear for the train to proceed the apparatus on the rails is not touched. If the signal is at danger, and the engine-driver, through some misunderstanding, passes the danger signal, a bell is set ringing in the cab of the engine and continues ringing until the driver turns a knob. The turning of the knob also automatically sets the apparatus in order again for the next danger zone. The power for operating the apparatus can be taken from the telegraph wires without in any way interfering with the telegraph working, or a special wire can be erected for the purpose.

The Danish State Railways are experimenting with an electrical device for stopping trains. It can, if necessary, be used as an extra brake in the event of the failure of the vacuum brake.

## MIDLAND GREAT WESTERN AND THE GALWAY PORT PROJECT.

A special meeting of the shareholders of the Midland Great Western Railway is to be held at Dublin on November 17 for the purpose of considering a proposal that the company

for the carrying out of a Galway Port project. In a circular issued by the directors they state that should the shareholders decide to incur the expenditure they must themselves take the responsibility of so doing. In the directors' opinion the possibility of raising the money to carry out the scheme would be extremely speculative and they could not recommend them to authorise the subscription on the terms suggested by Mr. Worthington. The directors, however,



Mr. Robert Worthington has issued a letter protesting against the day and hour of the meeting, and suggesting that the proceedings be formally opened and then adjourned until Tuesday.

It may be recalled that in the Bill which was introduced last year the promoters asked for the incorporation of a company by the name of "The Galway Railways and Harbour Company." The Bill proposed to confer powers to construct a railway by a junction with the Galway and Clifden branch of the Midland Great Western Railway of Ireland and terminating at Galway Bay. The total length of this railway would be 4½ miles, and the cost of its construction as a single line was estimated at £61,020.

From the termination of this railway it was proposed to construct two piers enclosing a portion of Galway Bay and forming a harbour therein. These piers are estimated to cost £1,386,376, thus making the total expenditure on the scheme for actual works £1,447,495. Power was also sought to authorise the Midland Great Western Railway of Ireland Company to subscribe £250,000 towards the capital of the company, and power was to be given to the County Councils of Dublin, Kildare, Meath, Westmeath, Roscommon, Galway, and Mayo to guarantee 1 per cent. per annum on so much of the amount from time to time paid up in respect of the ordinary capital of the company as the councils might by resolution determine.

The original scheme embraced a train ferry between England and Ireland, which has met with opposition from the London and North Western Railway Company.

It is announced that an important addition has been made to the project for establishing from the more northerly point of Blackpool Bay the rival Transatlantic service to Halifax. This proposal also includes a train ferry on the St. George's Channel. The railway extension from Collooney to Blackpool Bay has received Parliamentary sanction, and a few months ago a London firm of contractors obtained the contract for its construction. By the inclusion of Boston (U.S.A.) as well as Halifax in the scheme, on the other side of the Atlantic capital has, it is said, been raised for the establishment of a line of steamships and the necessary harbour works.

### BRIGHTON RAILWAY SIGNALLING SCHOOL.

A new departure so far as the London, Brighton and South Coast Railway is concerned, was inaugurated a few days ago, when a school for instruction in railway outdoor working and signalling was opened at Croydon. The necessity for, and possibilities of, such a school had for some time been recognised by the superintendent of the line, Mr. Finlay Scott, and about a year ago he approached the general manager, Mr. William Forbes, on the matter. This gentleman obtained the sanction of the directors to building and equipping the school, together with defraying the cost of upkeep and giving

the school a staff of experienced signallers. The work was taken on hands by the superintendent, Mr. Scott, and an excellent room for the purpose was secured in the Croydon station building.

The school has been very complete, and includes main and branch lines, refuge siding and a cross-over road. This model railway is fully signalled and provided with facing-point, locks and bars, fouling bars, discs, and other appliances. The signaller's box is done up and furnished in the most complete manner. The whole of the machinery and appliances of the railway are working, from a signalman's post to the end of the line, and the ordinary railway signal-box.

Two model trains are provided to work on this railway, one a passenger and the other a goods, all vehicles and engines being modelled to resemble the actual railway.

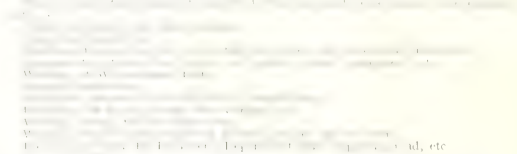
To work with this model there is a complete set of Tyer's train signalling instruments, which are mostly in use in the southern district of the Brighton Railway, properly connected as between four boxes, known respectively as A, B, C, and D. In addition to this a set of the more up-to-date Sykes' lock and block train signalling instruments are provided and connected as between three boxes, viz., A, B, and C, with eight nearly full-size levers to work with them. Two switches, one for Tyer's and the other for Sykes, enable the centre box, B, to be switched out. There are also two single-line electric train staff pillars with staffs, electrically connected, also a train staff and ticket box for instruction in the working of single lines. Two pairs of single needle telegraph instruments are fixed, two at either end of the room and connected in pairs, for telegraph practice.

Other equipment of the school consists of a full-size home signal post and arm, with lamp, etc., and a signal repeater working with it, also models of a Clayton's fog signalling machine and plunger. A main lock-up switch is provided to enable the current to be cut off from all instruments except the telegraph instruments, thus putting them out of action when not required.



Croydon School of Signalling.

The object of the school is to give every employee who so desires an opportunity of acquiring a knowledge of signalling and outdoor railway working, and to avoid the necessity of men going into signal boxes for that purpose, which hitherto has been practically the only means available. The school is open on Monday nights from 8 to 9 o'clock for lectures, and on Friday nights between the same hours for telegraph practice. The following are some of the subjects which will be dealt with during the session, which will probably last until April next.



Mr. W. E. Reynolds, of the superintendent of the line's office, who has dealt with the arrangements and equipment of the school throughout, has been appointed lecturer, and will conduct the classes on behalf of the superintendent of the line, under whose supervision the school is placed. Judging by the enthusiasm displayed on the opening night, it is evident that the school is fulfilling a long-felt want, and will without doubt do good service.

**Signal Box Regulations.** In reply to a circular issued by the South Western Railway Company warning signallers that the regulations for filling the boxes with the instruments must be adhered to strictly, the members of the National Union of Railwaymen of the South Western division have passed a resolution calling on the company to investigate, with a view to improving outdoor signalling, the pressure of duties required to be performed by signallers at boxes where loads are employed, also the advisability of having an emergency signaller, who could be called upon to relieve the signaller when it became necessary for him to leave the box.

# RAILWAY ELECTRIFICATION.

# PERSONAL.

**GRAND ARCADE.**—The first section of the railway will be brought into service at the end of the present month.

**CANADIAN PACIFIC RAILWAY.**—The president of the Canadian Pacific Railway, recently informed the *Windsor Telegram* that the electrification of the Rocky Mountains would be effected and that if this proved a success the Field-Revelstoke division would be so operated. He had been misquoted in the statement which reported him as saying that if the experiment proved successful the whole system would be converted to electric traction.

**GENOVA.**—Sanction has been given to the plans for an underground electric railway, six miles long. The direct current, third-rail electric system, will be used, the rails to be of the same kind as those on Italian State Railways.

**SWITZERLAND.**—The St. Gothard Railway to Lucerne, Lugano, and Milan is to be electrified at an estimated expenditure of £1,500,000.

**GERMANY.**—The western section of the Greater Berlin Underground Electric Railway has been opened for traffic. Rapid progress is being made with the electrification of the mountain sections of the Silesia Railways. It is expected that trials will be made early next year on the line between Königszell and Dittersbach. Four sections are to be ready for working by the spring, and several others will be in operation in the autumn.—The Prussian State Railway Administration have placed orders for the first batch of sixty electric locomotives with the Siemens-Schuckert Works, the A. E. G., and the Maffey-Schwarzkoef Works, at £4,750 per locomotive. The engines are for use on the Berlin City Railway.

**HUNGARY.**—The State railway lines are to be electrified on account of the constantly rising price of coal. Trials have already been made on the electrified Waitzen to Gödöllo section, but owing to the distance which the hydro-electric power had to be brought, the results were not considered conclusive. Further trials will take place, and visits are being paid to electric railways in other countries by representatives of the State Railways.

**JAPAN.**—In connection with the electrification of the railway between Tokio and Yokohama, the permanent way is being widened to provide four tracks, two being for electric working and two for steam working. The generating station at Kamata will be operated by gas engines.

**NORTHERN RAILWAY COMPANY.**—The Northern Railway Company has let a contract to the Canadian Electric Company for the electrification of the tunnel and the terminal beneath Mount Royal. Trains are to be running within a year, and a seven-minute service is to be provided through the four-mile tunnel, which is to open up land beyond the mountain urgently required for suburban development.

**VIENNA.**—The City Council, having relinquished the management of the City Railway, the conversion to electric working is to be proceeded with by the Ministry for Railways. The estimated outlay is £2,083,000, apart from the proposed underground lines, in which French capitalists are interesting themselves.

**WEST LONDON RAILWAY.**—The electrification of the suburban system of the London and North Western Railway is expected to be sufficiently advanced by January 15 to enable electric traction to be instituted on the West London Railway from Willesden Junction to Earl's Court. As the power station at Sudbury will not then be completed, the current will probably be taken from Chelsea power station of the Underground Electric Railways Company.

**FINANCING OF ARGENTINE RAILWAY PROJECTS.**—The Argentine Government has authorized the formation of a company to finance the construction of light railways to be submitted to them.

**ALBERTMAN HART.**

**MR. R. I. MILES.**

**MR. C. H. LARSON.**

**Sir Joseph White Todd, Bart.,** chairman of the Central Argentine.

**Mr. A. Myles,** for twenty-six years a porter at Cupar Station.

**The Late Mr. J. M. Grant,** Southsea, formerly secretary of

**Inspectors G. Manning and Hewitt,** on leaving Great Yarmouth

**The Earl of Pembroke.**

**Mr. Z. Takahashi,** who is referred to as "the living history of Japanese railways," has been presented with gifts by the Railway Association at Tokio, on completing forty years' service. He holds the record for length of service in Japan, and latterly he has acted as station-master of the Shimabashi

**Mr. Arthur B. Baker.**

of a tour in Canada this autumn, inquired into the workings of the Commission to be very successful in dealing with railway matters.

**Mr. Sanjin Murano,** a former president of the Kobe Electric, practically all his fortune, amounting to about one million yen, to be used for either establishing an apprentice school or erecting a shrine to be dedicated to the spirit of the late

**Mr. L. Abrahams.**

the Viceroy in order that matters connected with the railways may be orally discussed in the earlier stages. Hitherto, the settlement of various questions has been largely governed by experience gained partly in London and partly in India, especially questions of provision of capital and the relations of Government with the companies.

**Mr. W. D. Grosset.**

assistant to Mr. A. Cameron, who was then general traffic

**Sir Edward Grey, K.G.**

was presented on November 6 with the honorary freedom of Newcastle "in recognition of the service he has rendered to the Empire as Secretary of State for Foreign Affairs, and of

**Mr. C. F. Ward,** who, on his recent retirement from the service in that position with the Great Eastern Railway, was

Mr. Manuel Rodríguez, President of the Central Paraguay

[*Continued from page 159* South African Railways, 1]

Parcels insured by Motor L.A.B.S. 1

1st Railway Company, and the directors

Second, 1988 Replacant First Class in Japan. In

**South Western Railway Servants' Orphanage.** A successful meeting was held at the Woking District Local Committee, of which Mr. F. W. Albany was present. Her Royal Highness was received by the committee, and the following programme was carried out:—

The institution has maintained 105 children of railway servants, and a new home at Woking.

**Escape of a North Eastern Express from Collision.**—It is reported that the presence of a light engine on the main line at Castle Hills, near Northallerton, was forgotten on the night of November 8, and that the signals showed a clear line for the North Eastern express from Edinburgh. The driver of the light engine, in assuming that the signals were set, turned round and saw the express following. He accordingly put on all stop and drew to a halt at Northallerton, where he and his fireman and the guard on the engine jumped to the platform, leaving the train to run herself on. In the meantime the signalman at Castle Hills saw the signals against the express, and the driver of the express saw the signal. Mr. J. H. Ellis, the district superintendent at York, was on the express, and he directed the train's signalman to turn the light engine into a run-off trap and to stop it at once. He also had all traffic on the line stopped, to obviate any further risk. The light engine and express stopped and came to a standstill near the avenue box distant signal at Thirsk. The express engine was detached and took the light engine on to the independent line.

Payees: Applicants: Payee's address: Railway: At interest  
 1/1/1916 for the half year ended June 30 of 1916 per cent  
 payable on and after November 1

of 3 per cent. (6s. per share) less tax, being at the rate of 6 per cent. per annum on account of the profits of the year 1913.

**NORTH WESTERN OF URUGUAY RAILWAY.**—A dividend of 2½ per cent. is proposed on the 6 per cent. first preference stock, after adding \$2,000 to the rolling stock renewals fund.

to reserve a dividend at the rate of 10 per cent. per annum on the ordinary shares has been declared, leaving £1,318 to be carried forward.

CONSOLIDATED SIGNAL COMPANY.—A dividend of 10 per cent. on the ordinary shares in respect of the twelve months ended September 30 last. There was no distribution on this issue in respect of 1911-12, while for 1909-10 and 1910-11 5 per cent. per annum was paid.

**PENINSULAR AND ORIENTAL STEAM NAVIGATION.**—The directors recommend a further dividend of 6½ per cent. on the deferred stock, together with a bonus of 5 per cent., making a total distribution of 15 per cent. for the year ended September 30. A year ago the distribution was at the same rate.

CANADIAN PACIFIC RAILWAY.—A dividend of  $2\frac{1}{2}$  per cent. on the common stock for the quarter ended September 30 last, being at the rate of 7 per cent. per annum from revenue and 3 per cent. per annum from interest on the proceeds of land sales and from other extraneous assets, payable on January 2 next to shareholders of record at 3 p.m. on December 1 next.

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and Abbey Works, Shrewsbury.



[illegible]

[illegible]









# SUNNY SCENES

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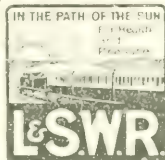
**B**OURNEMOUTH, the "City of Pines," by the shortest sea, two hours only from London, is the premier Homeland Winter Holiday Resort. All the essentials to health and pleasure, including an abundance of sunshine and plenty of amusement, are here. Golfing, fishing, motoring, and every pastime in town, forest and field, can be enjoyed.

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TO A. WALKER.

General Manager.

THE

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SAM FAY, General Manager.

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PARLIAMENTARY NOTICES (Continued).

the Great Northern and Great Eastern Joint

Great Northern Railway.

19. To vary or extinguish all rights and privileges

either House of Parliament, and the lands and other property in or through which the same will be made, and any other lands and property intended to be compulsorily

the owners and lessees or reputed owners and lessees and of the occupiers of such lands and other

As regards works and lands in the county of Essex and within such

As regards works and lands in the county of Suffolk, with the Clerk of the Peace for the

office at Norwich.

the county of Cambridge, with the Clerk of the Peace for the county

reference as relate to each of the areas hereafter mentioned in or through which the works proposed

public inspection as follows (that is to say):—

borough, or to any rural district, with the clerk

district other than the parishes of North Benfleet and

The Stock Exchange.

NOTICE

other provisions with reference thereto

the purposes of the Bill or other the purposes of

P. 25; and 2 and 3 (Geo. 5, cap. 37, and

Railway Company or their undertaking.

# **PARLIAMENTARY NOTICES—(Continued).**

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## **TENDERS INVITED.**

### **East Indian Railway Company.**

**THE** East Indian Railway Company  
Tenders are invited for the supply of  
the following materials:

A complete list of the materials required for the supply of the following materials:

For the supply of the following materials:

### **Borough of Southend-on-Sea.**

For the supply of the following materials:

For the supply of the following materials:

**THE** Corporation of Southend-on-Sea  
Tenders are invited for the supply of the following materials:

For the supply of the following materials:

### **North Eastern Railway.**

For the supply of the following materials:

**THE** Directors of the North Eastern Railway  
Tenders are invited for the supply of the following materials:

### **Bombay, Baroda, and Central India Railway Company.**

**THE** Directors are prepared to receive  
tenders on Tuesday, 26th December, 1913,  
for the supply of the following materials:

For the supply of the following materials:

### **The Madras and Southern Mahratta Railway Company, Limited.**

**THE** Directors are prepared to receive  
tenders on Tuesday, 26th December, 1913,  
for the supply of the following materials:

For the supply of the following materials:

**THE** Crown Agents for the Colonies,  
for the supply of the following materials:

## **POSITIONS VACANT.**

### **East Indian Railway.**

For the supply of the following materials:

**THE** Directors of the East Indian  
Railway Company are prepared to receive  
tenders on Tuesday, 26th December, 1913,  
for the supply of the following materials:

For the supply of the following materials:

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Strand, London, W.C.2.

# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, NOVEMBER 22, 1913.

No. 21.

## PRINCIPAL CONTENTS.

## NEW FORMS OF RAILWAY CAPITAL.

For the past few years the requirements of prospective investors, and we are glad to notice indications that this course has been taken, albeit these steps are somewhat belated. At one time our railways could afford to choose their own methods of issuing capital, but matters have changed so completely that if they wish to raise capital at all they must now consider the requirements of the investor. The average English investor of the old-fashioned type has a distinct preference for registered stock; but there is now growing up a very considerable number of private investors who prefer a bearer security, because of the saving in expenditure in stamp duty, brokerage, etc. Registered stocks have to bear *ad valorem* stamp duty of  $\frac{1}{2}$  per cent. upon the money, and the usual scale of brokerage on such securities is at least double that upon bearer securities, namely,  $\frac{1}{4}$  to  $\frac{1}{2}$  per cent., instead of  $\frac{1}{4}$  to  $\frac{1}{2}$  upon the bearer securities. Many large investors, such as banks, discount companies, and other financial institutions, will not, except under very strong provocation, buy a registered stock, when "bearer" securities are available to meet their requirements. Consequently the whole field of investment in British railway debenture, preference and other securities is closed to one of the most influential classes of investors. Several companies have already taken powers to issue "bearer" securities, but no leading company has as yet exercised such powers. Another requirement which deserves to be considered, and which might be met by extending powers to individual companies, is the demand for stocks with fixed dates of redemption. Practically the whole of the amount of existing debenture, preference, guaranteed, and other securities of our railways are perpetual, and owing to the great fall in such stocks, many investors now insist upon a security with a fixed date of redemption, because by that means they avoid the risk of unlimited depreciation. We believe that such a demand would probably abate if there were any substantial recovery in the high-class securities, but at present it exists, and in the case of those railways who may require to raise more capital it deserves to be considered. In the case of the London and South Western Company recently it was considered in practical form, and an arrangement came to under which a redeemable preference security of a "bearer" type was agreed upon, provision to be made for redemption partly out of capital and partly out of revenue. A similar departure is now being made by the London, Brighton and South Coast Railway Company, and the Great Western Railway Company, including debenture stock, with definite provisions for redemption, and to set apart out of revenue or otherwise the sums necessary to provide for redemption of such securities. At the same time the company is seeking the power to issue "bearer" securities relating to any of its stocks, including the debenture stock. The capital expenditure of our leading railways has been in almost every direction reduced to a minimum. The Brighton and the South Western Companies in particular are anxious

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## THE RAILWAY TIMES.

Established in 1837.

PUBLISHED EVERY SATURDAY

Annual Subscription post free, 25 shillings.

All communications for the following issue should be received not later than 6 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

Money Orders, Cheques, etc., should be drawn in favour of THE RAILWAY TIMES, and should be crossed "National Bank." Telegraphic Address: "Altimetry, London." Telephone No. 2948 Gerrard. Office: 12, Norfolk Street, London, W.C.

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one in their case than in the case of other leading railways. Still, the subject requires to be considered by all the leading railways who are spending any capital at all or have in mind proposals for doing so. The subject is of course of importance for all our railways would be to take steps in various ways that may suggest themselves to improve their credit with the investing public, and in the meantime to avoid all appeals for capital. This, however, is a counsel of perfection, and, in the course of their business, railway companies, like every large undertaking of a commercial character, must occasionally seek to raise more capital for the requirements of their traffic. Having regard to the demands made upon them of late years by the growing traffic and expanding trade of the country, it will be admitted that British railways have got along remarkably well, and have avoided appeals for new capital in a manner which a few years ago would have seemed incredible. Indeed, it may be asserted without fear of contradiction that no other railway system in the world has managed to maintain the efficiency of its service to the public with a similar demand upon the pockets of the investor; but bearing in mind the fate of the most recent appeals, such as that made by the Great Northern early in this year, and that

no particular eagerness on the part of the investing public to increase its stake in British railway enterprise. The Brighton Company's notice comes as a reminder that the most urgent necessity of the moment is some concerted movement on the part of the railway companies to defend,

the last doubt that at the present moment, having regard to the conditions which obtain, but unless great care is taken it

be a passing phase, may become permanent. There are many factors working to the detriment of the railways,

## HASTINGS TRAFFIC TO THE SEASIDE

sought to encourage long distance season ticket and other traffic to the numerous resorts on the Kentish and Sussex coasts. This policy was partly the outcome of the direct competition between London suburban traffic and the tramway and motor omnibus competition.

suburban traffic has served to encourage the company in its policy of encouraging traffic to the long distance traffic. Apparently, there is good reason for anticipating

made by Mr. E. C. Cox, superintendent of the line, in responding to the toast of "The Visitors," submitted at the Annual Meeting of the Hastings Corporation. Mr. Cox observed that as the result of efforts to foster long-distance traffic the receipts showed an increase of £185,000 during the year, thus more than compensating for the falling off in the short-distance suburban traffic. Part of this increase is due to the exertions made to extend the summer season at the seaside by putting on extra trains at the beginning of the season and by continuing them running longer, so that in October the service was almost as good as in the middle of the summer. Adverting to complaints occasionally made that the train service was not good, Mr. Cox asserted that the London-Hastings facilities were better than the service between the Metropolis and any other seaside resort in the kingdom. From the points of view of the shareholders and the public, it is satisfactory to note that both Mr. Cox and Mr. Finlay Scott, the traffic superintendent of the Brighton Railway, were able to congratulate the Corporation of Hastings upon having adopted a progressive policy in public amusements, a matter in which the two companies had for some time past considered there was a lack of enterprise on the part of the town. This shortcoming relates more particularly to the absence of adequate accommodation for band performances, and it is to be remedied by the purchase of the shore end of Hastings Pier in order to widen the parade and to erect sheltered accommodation for a larger number of listeners. Another forward movement is the decision to purchase the site of the hospital opposite the Pier, and to erect thereon a winter garden for band performances, with access to the Corporation land on the high ground at the rear, which is to be suitably laid out. Mr. Cox was well advised in stating that unless seaside authorities display enterprise it is impossible for railway companies to develop any resort, however beautiful, and he might have directed attention to the station developments that the company is carrying out at Margate as an instance of work rendered necessary because of the manner in which the local authority has catered for the entertainment of visitors. Too many seaside towns stand in need of a sheltered resort to which day visitors can go in the event of wet weather. These people, if suitably catered for, would travel in larger numbers than at present in the early summer. There is an unlimited number of this class and also of period visitors to draw upon in the metropolis if the southern railway companies would take steps during the winter and spring to secure their patronage. One method would be the appointment of an official lecturer, as is the case with the London and North Western Railway, thus ensuring

at present loan to applicants. The companies and the providing a series of films for display on the screens of

## TILBURY RAILWAY ELECTRIFICATION

Among Parliamentary notices of railway bills to be promoted in the next Session is one by the Midland Railway Company, stating, among other things, that the bill is "to extend any time or period limited by Section 21 of the Midland Railway (London, Tilbury and Southend Railway Purchase) Act, 1912." This somewhat cryptic reference is explained by the Act of 1912. Section 21

The South Eastern Railway, at the end of the year was at the rate of 10 per cent. premium on the ordinary ordinary stock with a period of 10 per cent. on the ordinary. For the second half of the year it was at the rate of 10 per cent., while for the first half it was 10. The first half of the

was used to restore the rate of 10 per cent. to the rate of 10 per cent. The whole twelve months should at least bring the

of the London, Tilbury and Southend Railway Company, they made no proposal for working the acquired line electrically. In view of the fact, probably, that a few miles of line between the junction of the Metropolitan District and the Tilbury line had already been electrified and was being run over by electric trains from the District Railway to Barking, pressure was brought to bear from the outside for the purpose of getting the whole Tilbury line to Southend electrified. This matter was not dealt with by the House of Lords Committee, which considered the Bill in April, 1912, but when it came before the House of Commons Committee in the following July the subject was brought up, and the Committee required the company to promise to undertake the work. A clause, which is now Section 21 as quoted above, was accordingly inserted. It has been reported recently in some daily newspapers that the Midland Company intend to proceed very soon with the conversion of the Tilbury line to electric traction. At first sight there does not appear to be any warrant for this statement in the notice of the Bill which is to be promoted next year, as there is no mention of electrifying the line, and at the same time the proposal to extend any period limited by Section 21 of the Act of 1912 points to delay. It is, however, to be noted that the expression "to extend any time or period" may refer either to the time for getting the Parliamentary powers or to the seven years allowed for carrying out the works. It is also to be observed that among the new railways which the Bill will propose to be authorised is one to be called the Stepney and Bromley Railway, which is to start by a junction with the London and Blackwall Railway in Stepney and to terminate in the parish of Bromley St. Leonards in Poplar by a junction with the company's railway from Gas Factory Junction to Barking. It is also proposed to construct a line to be called the Barking and Upminster Widening, in Essex. Powers are also asked to make a line to be called the Hornchurch Curve at Romford, Essex, joining the company's railway from Barking to Pitsea with the company's Romford branch railway. It is further sought to authorise the company, the Metropolitan District, the London Electric and the Whitechapel and Bow Railway Companies, to enter into agreements as to the working of traffic over the Hornchurch Curve and the Barking and Upminster Widening, and as to the working of the curve and widening by electrical power. It is accordingly evident that the Midland Company contemplate taking some steps in advance during the coming session of Parliament. The Parliamentary notice of a Bill is always drawn in very wide and general terms, but the concrete and precise proposals will be set out in the Bill itself to be deposited in the Houses of Parliament at the end of November. As the distance between Fenchurch Street in the City of London and Southend is about 40 miles, the work of electrification will be one of considerable magnitude. No doubt the third and fourth rail system of traction by direct current will be used, so as to ensure the possibility of through running with the Metropolitan District Railway.

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways of the United Kingdom for the week ended November 16 gives a total of 22,213,521, which was earned on 21,074 miles, being at the rate of £100 18s. 4d. per mile of line open. For the corresponding week of 1912 the receipts of the same lines amounted to £98,805 in

increase of £1 8s. 6d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £11,053 for £1 6s. 2d. per mile in the passenger receipts and an increase of £10,002 for 5s. per mile in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the forty-six weeks in the passenger receipts has been £2,044,076, while the aggregate increase in the goods traffic was £1,000,146. The aggregate receipts of the fifty railways for forty-six weeks (December 29 to November 16) amounted to £107,041,821, in comparison with £100,400,508 last year, an increase of £6,641,313, not including receipts from certain canals, etc.

## MONEY AND STOCK MARKETS.

Mine					
General	25	General	..	..	20
Mines					
General	9	General	..	..	10
Mines					
General					

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

		Last Year.
Bank's Coin and Bullion	£ 95,823,482	£ 95,706,204
Notes in Circulation	£ 28,402,000	£ 28,308,783
		47 100
Silver bars, per oz. (Spot)		27 1/2
Consols (account)		75 1/2
French 3 per cent. (acc.)		
Paris 4 1/2 per cent. (acc.)		
New York 60 days ditto		
Rio de Janeiro exchange	91 1/2	91 1/2
Valparaiso 60-day exche.		18 1/2
Calcutta transfers		
Hong Kong transfers		
Shanghai transfers		28 1/2
		3 .. .. Mar 9 1911
		00

country as fast as the market has been exporting. Only under review, instead of four or five times that amount. The active circulation of notes decreased by £28,000

may be building up their reserves with the notes and coin eliminated from current cash transactions between members of the public. For export £115,000 was withdrawn, and nearly an equal amount was received in bars, so that the Bank lost but £20,000 on this count. Consequently the Reserve, though £218,000 higher, is rather lower than was anticipated, and rates for money and discount perceptibly hardened when the figures became known. The low total of Private Deposits was reduced by another

Name of Stock.	Rise.	Fall.	Name of Stock.	Rise.	Fall.
<i>British Railways.</i>			<i>American Railways.</i>		
Consolidated 4 per cent.	..	..	Atchison Common ..	..	1 1/2
Do. 2nd 2 1/2 per cent.	..	..	Baltimore and O. ....	..	..
			Chesapeake and Ohio ..	..	..
<i>British Railways.</i>			Chicago & Western ..	..	2 1/2
Barry Deferred .....	..	..	Chicago Mil. & S. Paul ..	..	1
Caledonian .....	1 1/2	..	Denver & Rio Grande ..	..	1 1/2
Do. Pref. Con. Ord. 1 ..	..	..	Do. Preferred .....	..	1 1/2
Do. Def. Con. Ord. 1 ..	..	..	Erie Common .....	..	1 1/2
Central London .....	..	..	Do. 1st Preference ..	..	1 1/2
Do. Deferred .....	..	..	Do. 2nd Preference ..	..	..
City and S. London ..	..	..	Illinois Central .....	..	1
East London Con. ....	..	..	Louisville & Nashville ..	..	..
Furness .....	..	1	Missouri Kan. & Texas ..	..	1 1/2
Great Central P. E. ....	..	..	New York Central .....	..	..
Great Eastern .....	1 1/2	..	N.Y., Ont. & Western ..	..	..
Gt. Nthn. Pref. Con. Ord. 1 ..	..	..	Norfolk & Western ..	1/2	..
Do. Def. Con. Ord. ....	1	..	Do. Preferred .....	..	..
Great Western .....	..	..	Pennsylvania .....	..	1/2
Hull and Barnsley ..	..	..	Reading Common .....	..	1
Lancashire & Yorkshire ..	..	2	Southern Pacific Com. ..	..	1
London, Br. & S. Coast 1 ..	..	..	Southern Common .....	..	1 1/2
Do. Def. Con. Ord. ....	..	..	Do. Preferred .....	..	..
London & N. Western 1 ..	..	..	Union Pacific .....	..	1 1/2
London & S. Western 1 ..	..	..	Do. Preferred .....	..	..
Do. Def. Con. ....	..	..	U.S. Steel Corp. Com. ..	..	..
Metropolitan .....	..	..	Do. 7 p.c. Cum. Pref. ..	..	1
Metropolitan District ..	..	..			
Midland Def. Ord. ....	..	..	<i>Foreign Railways.</i>		
North British Pref. Ord. 1 1/2	..	..	Antofagasta Def. Ord. 2 ..	..	..
Do. Def. Ord. ....	1	..	Argentine Gt. Western 1 ..	xd	..
North Eastern Cons. ....	..	..	Buenos Ayres & Pacific 1 ..	xd	..
North Staffordshire ..	..	..	Buenos Ayres Gt. Stern 2 ..	..	..
South Eastern .....	2	..	Buenos Ayres Western 1 ..	..	..
Do. Deferred .....	..	..	Central Argentine .....	1	..
York Valley .....	..	..	Do. Deferred .....	..	..
			Cent. Uruguay of Mont. 1 ..	..	..
Underground Electric ..	..	..	Cordoba Cent. Ord. ....	..	..
Do. 4 1/2 p.c. Bonds ..	..	..	Do. 1st Pref. ....	1	..
Do. 6 p.c. Bonds .....	..	..	Costa Rica .....	..	..
			Cuban Central .....	1/2	xd
<i>Colonial Railways.</i>			Leopoldina .....	1	..
Canadian Pacific .....	..	1 1/2	Mexican Ordinary .....	xd	1 1/2
Grand Trunk of Canada ..	..	..	Do. 1st Pref. 8 p.c. ....	xd	1
Do. 4 p.c. Guaranteed 1 ..	..	..	Do. 2nd Pref. 6 p.c. ....	xd	2
Do. 1st Preference .....	..	..	Nitrato de Chary .....	..	..
Do. 2nd Preference .....	..	..	Ottoman (Smyrna to Aidin) 1/2	..	..
Do. 3rd Preference .....	..	..	Un. of Havana Ord. ....	..	..

BANKING DEPARTMENT.		Nov. 12,	Nov. 19,	Increase.		Decrease.	
£	s	£	s	£	s	£	s
<i>Assets.</i>							
Reserve	—	3,194,518	—	1,226	—	—	—
Call Deposits	—	90,823,414	—	982,478	—	—	—
Other	—	28,464,729	—	—	—	1,66,885	—
Flag Ship	—	1,240	—	7,641	—	—	—
<i>Liabilities.</i>							
General Accounts	—	1,788,141	—	11,744,772	—	Decrease.	—
Deposits	—	27,481,147	—	27,974,235	—	—	628,788
Notes	—	1,097,120	—	21,416,991	—	—	20,419,871
Gold and Silver	—	1,377,064	—	31,142	—	—	—
				1,051,643		1,051,613	
				Increase.		Decrease.	
Reserve	—	269,491,184	—	26,807,522	—	218,038	—
Call Deposits	—	54,346	—	81,976	—	—	—
Other	—	1,000	—	8,000	—	—	—
Flag Ship	—	1 p.c.	—	5 p.c.	—	—	—
General Accounts	—	—	—	—	—	Decrease.	—
ISS. & DEPARTMENT.							
		£		£			
Gold and Bullion	—	35,123,200	—	35,204,260	—	171,060	—
Gold and Silver	—	—	—	—	—	171,060	—
Notes	—	2,700	—	2,700	—	—	97,821

The Proposed Strand to Crystal Palace Railway. The Railway (H) S. & K. Co. are to be allowed to pass upon their own line. The proposed line is to be a single electric line, the Strand to Crystal Palace. The proposed line is to be a single electric line, the Strand to Crystal Palace. The proposed line is to be a single electric line, the Strand to Crystal Palace. The proposed line is to be a single electric line, the Strand to Crystal Palace.



# **ELECTRIC GOODS LOCOMOTIVES FOR SOUTHERN PACIFIC RAILWAY.**

The great progress in electric railway work in the United States is strikingly exemplified in an order placed some time ago by the Southern Pacific Railway for 15 electric locomotives, one of which is shown in the accompanying illustration. Each of these locomotives weighs 53½ tons and will work on either 600 or 1,200 volt direct current. This locomotive when operating under natural ventilation will be able to exert a continuous draw bar pull of 5,600 lbs., while with forced ventilation it can exert a continuous tractive effort of 11,520 lbs.

the same rating, but is insulated for 1,200 volts. Its normal rating with natural ventilation is 225 horse-power at 600 volts with 315 amperes. With forced ventilation, the rating of the motor is 250 horse-power at 600 volts with 350 amperes. Its continuous rating with natural ventilation and perforated covers will be 140 amperes at 300 volts. With forced ventilation the continuous rating is 255 amperes at 350 volts.

These locomotives are built according to the most approved trunk line railway practice, and the main dimensions are as follow:—



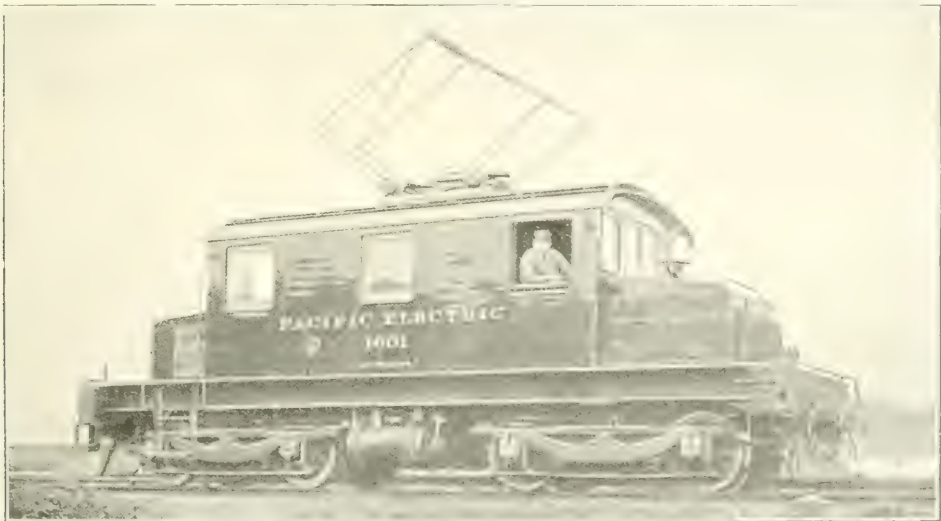
Electric Goods Locomotive for Southern Pacific Railway.

for a period of one hour. With natural ventilation the locomotive will exert a tractive effort of 17,000 lbs. at a speed of 18.4 miles per hour on a 600 volt circuit and with forced ventilation it is capable of exerting a tractive effort for one hour of 21,600 lbs. at a speed of 17.6 miles per hour on a 600 volt circuit. Under favourable conditions the locomotive can exert a momentary tractive effort of 30,000 lbs.

The cab is built of steel 18ft. long and 9ft. 6ins. wide. It is arranged for double end operation, and there are side steps

Journals ..	17 ft. 6 ins.
Distance between truck centres	11 ft. 6 ins.
Width ..	11 ft. 6 ins.
Height to top of cab ..	11 ft. 6 ins.
Length of body ..	17 ft. 6 ins.
Width of body ..	11 ft. 6 ins.

The trucks are of the equalised pedestal type, the rectangular frames of which are forged in one piece. The pedestals are protected by shoes which can easily be replaced.



Electric Goods Locomotive for Southern Pacific Railway.

at each end of the locomotive for the convenience of the pointsman. There are four motors supplied to each locomotive and each motor is geared direct to the axle as shown diagrammatically above. These are exactly alike except that the No. 308-B-3 motor is wound for 1,200 volts, while the No. 308-B-7 is wound for 1,500 volts. The No. 308-B-7 motor has the same general characteristics as the 600 volt motor of

The Westinghouse unit switch control type HL is employed and there are three running positions provided for 600 volts and two for 1,200 volts. A pneumatically operated switch has been installed which provides the three running positions, and this switch can be operated by a control from either end of the cab. It is so connected that the four motors of the car may be connected all in series, two motors in parallel and

notches for the motors in full series, 9 notches with them in series parallel and 6 notches with the motors all in parallel

installed which readjust the divisions in the main resistance and lock the series parallel switch in the series position. The master controller has the same number of notches available on the 1,200 volt operation as under 600 volt operation for the full series and the full parallel position. Each locomotive is equipped with train line receptacles and plugs so that any number of locomotives may be operated in tandem by a single driver in the front locomotive. A special relay has been provided in addition to the standard control apparatus so that whenever a locomotive passes a certain point contact will be made which will open all circuits of the motors. This insures that there can be no current through the motor when the trolley passes this point. In order to re-establish the connection through the motors, it is necessary to first bring the master controller to the off position. A warning signal is located in the cab which notifies the motorman of an open switch due to overload circuit, blowing of the main fuse, etc.

For the air brake equipment there are two dynamotor compressors provided which have a capacity of 25 cubic feet of free air per minute. The dynamotor is virtually a double motor having a double set of field windings, and a double set of armature windings on the same pole pieces and armature core. When the locomotive is operated on 1,200 volts the two windings are connected in series and the current for

## NEW ELECTRIC PASSENGER ENGINES FOR NEW YORK CENTRAL RAILWAY'S SUBURBAN SERVICE.

The New York Central and Hudson River Railroad has ordered six additional powerful passenger electric locomotives from the General Electric Company for suburban service out of New York city. Early in the year ten electric locomotives of the most powerful type ever built, and weighing 100 tons each, were ordered from this manufacturer for the same service. A description and illustration of these machines were given in THE RAILWAY TIMES of May 10 last. While the new engines are of the same type and construction, they are somewhat heavier, weighing 110 tons, and owing to the recent advancement in locomotive design, they will have materially increased capacity for continuous service. In 1906, 35 600-volt direct current passenger electric locomotives were built by the General Electric Company, and used in suburban service. These weigh 115 tons each, have the 4-8-4 wheel arrangement, and are each equipped with four GE-84 bipolar gearless motors. Twelve more engines of the same type were placed in service in 1908. All these locomotives were designed with sufficient tractive effort to operate trains of 535 tons gross weight at 60 miles per hour in the regular terminal service.

The ten 100-ton electric locomotives ordered in the early part of this year are designated type 4-4-4-4 and are each equipped with eight GE-89 bipolar gearless motors, all the weight of the machine being carried on motor-driven axles. These engines are designed for pulling the heavy limited trains, and will exert sufficient tractive effort to operate 800-ton trains



110-ton New Electric Passenger Locomotive for the New York Central Suburban Service.

field coil will be cut out and the remaining set will operate as a series motor. The dynamotor runs constantly, there being a friction clutch pneumatically operated and controlled by the main reservoir pressure which drives the compressor

There are two fans which supply forced ventilation to the

Baldwin Locomotive Works, while the electrical equipment

in continuous service between the New York Central terminal station and Harmon. Each is capable of operating a 1,000-ton train in emergency service, or a train of the same gross weight on level tangent track continuously at 60 miles per hour, or an 800-ton train at 65 miles per hour. But the weight of trains which are being hauled out of the terminal is increasing steadily, and some of the more important trains now weigh over 1,000 tons.

It has therefore been deemed desirable to have engines for the maximum service with very great continuous capacity, ample overload and high momentary rating. The new locomotives are able to exert practically the same tractive effort continuously that the previous ten locomotives can for one hour. The ten tons increase in weight is accounted for mainly by the greater amount of material in the motors, which are of larger capacity. The speed and torque characteristics of the locomotive have been kept practically the same as those of the former ten machines, but the new locomotives are capable of hauling approximately 10 per cent. greater tonnage in continuous service.

The previous ten 100-ton locomotives have a capacity for developing 1,400 horse-power continuously, 2,000 horse-power for one hour, and can develop as high as 5,000 horse-power for short periods. This corresponds to a tractive effort of 9,000 lbs. at 60 miles per hour continuously, or 13,500 lbs. at 51 miles per hour at the one hour rating. The six new electric engines will develop 2,000 horse-power continuously or 2,600 horse-power for one hour. The equivalent tractive effort is 11,000 lbs. at 51 miles per hour continuously or 20,000 lbs. at 40 miles per hour at the one hour rating. They are able to haul 1,100-ton trains in continual service between

trains in emergency service, and 1,200-ton-trains on level and construction, the new machines will be of identically the same type as the former ten engines, having an articulated frame with bogie guiding trucks at each end.

The accompanying illustration shows the general appearance. The cab containing the engineer's compartment and that for the operating mechanism is swung between the two parts of the frame on centre pins. Each section is equipped with two-axle trucks having a driving motor mounted on each axle. All the axles are, therefore, driving axles; and the eight motors, of the bipolar gearless type, are of the same general design as the motors on all the previous 57 locomotives, and are provided with ample forced air ventilation.

The motors are electrically connected permanently in parallel in pairs, and the pairs can be connected in three combinations—viz., series, series-parallel, and parallel. They are insulated for 1,200 volts, so that if at any future time it should be desired to operate the locomotives on this voltage, the pairs of motors could be changed from parallel to series connections and the same speeds and control combinations obtained as on 600 volts. Compared with existing types of electric engines, these machines have greater capacity and higher efficiency than any other high speed electric locomotive ever constructed, although the total weight per driving axle and dead weight is less than that of any other locomotive approaching their capacity.

### PROGRESS OF THE TRANS-AUSTRALIAN RAILWAY.

A report on the progress of the work at the two ends of the Trans-Australian railway was recently made public by Mr. W. H. Kelly, the Hon. Minister in charge of the Department for Home Affairs of the Commonwealth Government. At the Kalgoorlie end the permanent route had been pegged and levelled to 80½ miles, clearing had been completed up to 58½ miles, and the earthworks were being built up at the 61½-mile mark. The railhead was then over eight miles out. In all 240 men were at work on the section. At Port Augusta the temporary locomotive workshop had been finished, and machinery was being installed. The surveyors were encamped 65 miles out, and the route was marked for 60 miles. In the meantime, a deviation had been made across the gulf, and the rails were down to the 9½-mile point. The number of men at

Mr. H. Deane, the engineer-in-chief of the Commonwealth Railways, in a report to the Government, expresses the hope that before there is any urgent necessity to obtain further locomotives for the Trans-Continental railway, the internal combustion principle will have sufficiently developed to permit of engines of sufficient size being built. Offers to manufacture had been received, and two propositions were now under consideration. The chief advantage due to their use would be in the saving of water and the avoidance of repairs to boilers, which in a dry country, with highly mineralised water, would be exceedingly large. Moreover, an internal combustion locomotive would do a much greater annual mileage than a steam locomotive, and there would, therefore, be a saving in the number required.

Two American track laying plants were being put together, and as soon as the required number of the 40-ton bogie wagons had been delivered the plant would be attached, and would be ready for work. All the steel rails and fishplates ordered from America had been delivered with the exception of 5,050 tons, which were lost by the wreck of the steamer "Hector." These were being replaced by the contractors. In view of the importance of Port Augusta as a traffic centre in the future, consideration was now being given to the establishment of permanent shops for the construction and repair of rolling stock.

The progress of permanent way and works, Mr. Deane says, has been considerably delayed through the Commonwealth having to design and build by contract every vehicle required upon the railway, as the gauges of the existing State railways at both ends of the line are of a different gauge to that of the Trans-Continental line itself.

Exclusive of supplies obtained locally by the supervising

engineers, and of the cost of freight from West Australia, than ports to Kalgoorlie, the material already contracted for and considerably to that amount. It is estimated that rolling stock yet to be ordered for construction and traffic purposes will involve the expenditure of an additional £2,000,000. This

£850 each; 12 guards' vans at £1,200 each; 10 internal combustion each; 4 passenger cars at £2,500 each; and 10 lounge vans at £1,200 each.

On the much disputed question, whether karri or jarrah is the more suitable for sleepers, Mr. Deane states that it is confidently anticipated that while jarrah sleepers are known to have an average life of only about fourteen years, karri powdered will last double the time. Jarrah timber had the unfortunate peculiarity of shrinking away from the spikes, so that with time the spikes became loose. Karri, on the other hand, had the property of closing round the spikes and holding them tight. The Western Australian Government was expected to make the first delivery of these sleepers in November.

Reference is made by Mr. Deane to the announced intention of the South Australian Government to construct a 511½ km. line from Adelaide to Port Augusta, with a separate station and wharriage facilities for purely State purposes at Port Augusta. He is of opinion that this break in the gauge would be a great mistake from a national point of view, and it was a subject upon which the Commonwealth Government would be justified in taking action.

### SOUTH AFRICAN RAILWAY INQUIRY.

The following matters will be inquired into and reported upon by the Railway Commission appointed by the Governor-General of the Union of South Africa:

- Immediate introduction of eight hours' day.
- Minimum wage for white adult employees from ss. upwards per diem.
- Revision of the present rate of local allowances on the basis of the comparative cost of living at various centres.
- Abolition of piece-work.
- Better payment of the salaried staff.
- Less severity of punishment, especially in connection with staff and tablet errors, strikes, &c., and reinstatement of those men who have been dismissed the service for such reasons since Union.
- All apprentices to be fully indentured, and each apprentice to be placed under the supervision of a journeyman so as to be thoroughly taught his trade. Apprentices after serving their time to be classed as journeymen.
- Overtime Rates: Mechanics, time and a half for all overtime; double time for Sundays and public holidays. Apprentices not to be allowed to work overtime under any circumstances. Systematic overtime to be abolished.
- Running Sheds: All running shed employees working and quarter.



## RAILWAY BILLS FOR 1914.

The following are the railway Bills to be promoted by the Government in the next Session, and are now being issued. Appended are the names of the promoters of the Bills. Officers will doubtless be able to give particulars as to the objects of the Bills.

## A NEWPORT AND SOUTH WALES DOCKS AND RAILWAY.

To enable the company to make two railways and widening in Monmouthshire, to acquire lands and to extend the time for the completion of authorised works. Solicitors—Markley, Stewart and Co., 57, Coleman Street, London, E.C. Parliamentary agents—John Kennedy, W.S., 10, Abingdon Street, Westminster.

## BIRMINGHAM RAILWAY COMPANY, LIMITED.

To enable the company to make additional sinking funds, to make further provision for the redemption of 4½ per cent. first mortgage debentures and for additional sinking fund, and to redeem all outstanding debentures at any time. Solicitors—Garratt, Hargrave, Sons and Co., 10, Abingdon Street, Westminster. Parliamentary agents—Dyson and Co., 20, Abingdon Street, Westminster.

## TOTTENHAM AND NORTH-WESTERN RAILWAY COMPANY.

To authorise the company to purchase, at 100s. per £100, first and second preference stocks, and to provide for the establishment of a redemption fund, and for the reduction of the rate of interest on the preference stocks so purchased. Solicitors—Simpson and Mather, 10, Abingdon Street, Westminster. Parliamentary agents—Sherwood and Co., 22, Abingdon Street, Westminster.

## A TUNNEL UNDER RAILWAY.

To authorise the company to enlarge their tunnels under Holborn, to make subways at Shepherd's Bush, Oxford Circus and the Bank of England, to acquire lands, to raise additional capital, to make further provision for the redemption of 4½ per cent. first mortgage debentures, and to extend the time for the completion of authorised works. Solicitors—Ashurst, Morris, Crisp and Co., 17, Throgmorton Avenue, E.C. Parliamentary agents—Sherwood and Co., 22, Abingdon Street, Westminster.

## DENBIGH AND NORTH-SHIELDS RAILWAY.

To enable the company to make additional sinking funds, to make further provision for the redemption of 4½ per cent. first mortgage debentures, and to extend the time for the completion of authorised works. Solicitors—Davies, Sanders and Swanwick, Chesterfield. Parliamentary agents—W. and W. M. Bell, 3a, Dean's Yard, Westminster.

To enable the company to make additional sinking funds, to make further provision for the redemption of 4½ per cent. first mortgage debentures, and to extend the time for the completion of authorised works. Solicitors—Ashurst, Morris, Crisp and Co., 17, Throgmorton Avenue, E.C. Parliamentary agents—Sherwood and Co., 22, Abingdon Street, Westminster.

To authorise the company to make a railway in Chelmsford, to lay additional lines of rails alongside existing lines in the district, to make further provision for the redemption of 4½ per cent. first mortgage debentures, and to extend the time for the completion of authorised works. Solicitors—Edwards and Moore, Liverpool Street Station, Westminster.

To empower the company to make a new railway at Melton Mowbray, to make additional sinking funds, to make further provision for the redemption of 4½ per cent. first mortgage debentures, and to extend the time for the completion of authorised railways. Solicitors—R. Hill Dawe, King's Cross Station, and 1, The Abbey, Westminster.

To authorise the company to construct railways in the district, to make additional sinking funds, to make further provision for the redemption of 4½ per cent. first mortgage debentures, and to extend the time for the completion of authorised railways. Solicitors—R. Hill Dawe, King's Cross Station, and 1, The Abbey, Westminster.

Glamorgan, to make deviations and widenings of certain Welsh lines, to lengthen and widen numerous bridges, to stop up footpaths, to acquire lands in various parts of the country, and to raise additional capital. Solicitor—L. B. Page, Paddington Station, and 28, Abingdon Street, Westminster. Parliamentary agent—H. F. A. Hoskins, 20, Abingdon Street, Westminster.

## LONDON, BRISTOL AND SOUTH COAST RAILWAY.

To enable the company to make widenings of existing railways in London and neighbourhood, to acquire lands, to extend the time for the completion of authorised railways, to erect buildings on any of their lands, to issue redeemable stock or debenture stock, and to issue warrants to bearer. Solicitor—P. V. Rose, London Bridge Station, S.E. Parliamentary agents—Dyson and Co., 20, Abingdon Street, Westminster.

## LONDON LITTLE RAILWAY.

To authorise the company to construct subways at Tottenham Court Road, Piccadilly Circus and Trafalgar Square, to acquire lands, to raise additional capital, to increase the rate of interest on unissued preference stock, and to issue stock certificates to bearer. Solicitors and Parliamentary agents—Bircham and Co., 46, Parliament Street, Westminster.

## MIDLAND RAILWAY.

To authorise the company to make two short lengths of new railway in London and Essex, a widening in Essex, and a deviation at Coleraine Ireland; to acquire lands in various parts of the country, to extend the time for the completion of authorised railways and the time limited by section 21 of the Midland Railway (London, Tilbury and Southend Purchase) Act, 1912; to manage and work the undertaking of the Tottenham and Forest Gate Railway Company, to further raise capital, to make further provision for the redemption of 4½ per cent. first mortgage debentures, and to extend the time for the completion of authorised works. Solicitors—Baker and Co., 10, Great George Street, Westminster. Parliamentary agents—Sherwood and Co., 22, Abingdon Street, Westminster. (Section 21 of the Act of 1912 is that which requires the company to apply for Parliamentary powers not later than 1914 to the Government for the extension of the line.)

## MILTON AND DENBIGH JUNCTION RAILWAY.

To enable the company to construct a railway in Denbighshire, to raise additional capital, and to make agreements with the London and North-Western Railway Company with respect to construction, working, etc. Solicitors—Davies, Sanders and Swanwick, Chesterfield. Parliamentary agents—W. and W. M. Bell, 3a, Dean's Yard, Westminster.

## NORTH AND SOUTH SHIELDS RAILWAY.

To incorporate a company and to authorise it to construct an underground electric railway from North Shields, passing under the River Tyne; to acquire lands in South Shields and to erect an electric generating station thereon. (This is a revival of a scheme which was authorised by an Act passed in 1902, but which was never carried out.) Solicitors and Parliamentary agents—Baker and Sons, 35, Parliament Street, Westminster.

## SOUTH-WESTERN AND ISLE OF WIGHT JUNCTION RAILWAY.

To revive powers and to extend the time for the completion of authorised railways, to raise additional capital, to make further provision for the redemption of 4½ per cent. first mortgage debentures, and to extend the time for the completion of authorised works. Solicitors—Ashurst, Morris, Crisp and Co., 17, Throgmorton Avenue, E.C. Parliamentary agent—John Kennedy, W.S., 10, Abingdon Street, Westminster.

## BRITISH RAILWAY CONCESSION IN CHINA.

The British and Chinese Corporation, the Minister of Finance, and the Minister of Communications have signed the Pukow-Hsin-yang-chow railway agreement, the five per cent. thirty-year bonds of which have not been able to be offered for many months. This is the last of the five railway concessions in China.

**A Charming Cross Station Improvement.** The Chelmsford and main line arrival platforms the South Eastern and Chatham Railway management have opened a suite of dressing and bath-rooms for women. For a shilling women can obtain a hot bath. The dressing-rooms, which are decorated in green and white, are reached by a way of a marble entrance hall, which has glowing fire grates.

RAILWAY CASES IN THE COURTS.

RAILWAY AND CANAL COMMISSION.

**ILLEGITIMATE CHILDREN CASE.**—At the County Court on November 18, J. A. C. J., presiding, in the case of *North Eastern Railway Company v. The North Eastern Railway Company* for the loss of a brood mare, valued at 200 guineas. On May 3 plaintiff sent the mare to Weaverthorpe Station for transference to York. The mare was placed in a horse-box, but was not sent by the first train to York, and when the box was attached to a later train the mare's fore-leg was found to be over the partition in the box. Plaintiff's case was that the company had been guilty of a breach of contract in not sending the mare by the first available train, and that there had been negligence in the boxing of the mare, and especially in cutting its halter. Mr. Gaunt, for the defence asked the judge to take note of his contention, that seeing that the horse was consigned at a reduced rate—9s. 6d. for the double journey, instead of 16s. 6d.—plaintiff had no claim unless wilful misconduct could be proved. Mr. W. H. Bartum, M.R.C.V.S., horse superintendent to the Lancashire and Yorkshire Railway, said horse trainers did not fasten horses in the boxes at all, and he considered the railway servant who cut the halter did the right thing. Other veterinary surgeons, were called in support of this view. The jury, after an hour's consideration, replied to four questions put to them by the judge, as follows:—(1) That the letters "O.R." in the contract note would be understood to mean "ordinary risk," and not "owner's risk," as contended by the company; (2) that it was a breach of contract on the part of the company not to have sent the animal by the first train; (3) that there was no negligence in boxing the mare; (4) that there was no negligence in releasing the mare. Judgment was given for the plaintiff, with costs.

**STOKER'S APPLICATION AGAINST THE NORTH EASTERN COMPANY.**—An application for compensation was heard by the Durham County Court Judge, in which F. H. Newton, fireman, alleged that as the result of being set to stoke a giant engine he sustained hernia. On applying to be removed to his old class of engine he was passed as sound and sent back to the giant engine. Later he had a change, but in September of last year he was again put to the heavier work. Mr. Boothroyd, in defence, contended that the company were prejudiced because they did not receive notice of the accident until after the operation and after six months had elapsed. His Honour found for the applicant for 18s. 1d. per week from November to February, and for 2s. 3d. from then up to July 10.

**RAILWAY COMPANY** from a decision of Judge Austin at Bristol County Court in favour of Mr. F. A. Wills, wholesale meat importer, of Bristol, was dismissed with costs on November 14 in the High Court by Justices Bray and Lush. Mr. Wills had sued the company for damages for non-delivery of a quantity of frozen meat, and he obtained judgment for the amount of his claim. His Honour expressed the view that the railway company had failed to show that the loss was not due to negligence or misconduct on their part. Mr. Schiller, K.C., for the appellant company, said a question had arisen about the way the goods were addressed, and he contended that they should have been fully and properly addressed, which involved an address on the truck. The meat was conveyed at "owner's risk" rates, which exonerated the company from liability except in respect of wilful misconduct. Their Lordships dismissed the appeal, but gave the railway company leave to appeal further, conditionally upon their paying the costs of both parties in any event.

**THE TIME LIMIT FOR CLAIMS.** At Marylebone County Court on November 18 the *Admiral Electric Co., Ltd.*, of Artillery Lane, London, sued the Great Western Railway Company for £17 10s. damage done to two electric fans. The fans, packed in two cases, were delivered at the Guildhall, Plymouth, where plaintiffs were engaged in carrying out a ventilation contract. The cases remained in the yard behind the hall for four days, when they were removed into the building. On the cases being opened five days later, the fans were found to be smashed. For the railway company, Mr. Wippell submitted that in face of the condition on the consignment note—that claims for damage must be made within three days of delivery—there was no case to go to the jury. The Judge said there must be judgment for defendants. He held that the condition attached to the consignment contract was a reasonable one.

Hon. A. E. Gathorne-Hardy, and Sir J. Woodhouse, on November 18 and 19, heard a complaint by the *Olympia Oil and Cake Co., Ltd.*, Selby, against the North Eastern Railway Company in respect of alleged undue preference to the Hull by Sir A. Cripps, K.C., was that applicants were not incurring the expense for which the Hull traders were allowed a rebate. If a Hull trader had a siding, or his premises were close to a siding, there would be no question of a rebate of any kind. It was given for services the trader himself performed, and the company said they were willing to take this burden on themselves. The hearing was concluded on Thursday, when the Court reserved judgment.

**ISLE OF WIGHT CENTRAL RAILWAY COMPANY** for an order upon the Freshwater, Yarmouth, and Newport Railway (since June 14 last conducted by Sir Sam Fay as receiver and manager), to afford facilities to accept the traffic at the applicants' Newport Junction, and so make possible through traffic between Ryde and Freshwater. Sir A. Cripps explained that the companies had worked together, providing the through facilities until recently. In June last the Freshwater Company built a station at Newport, which he could only call a shanty, and passengers were put to the inconvenience of walking from one station to another along a narrow footway like a switchback, each part of which was at right angles to the next. In the course of the evidence, Mr. H. Willmott, chairman of the Isle of Wight Central, said he regarded Sir Sam Fay's proposal of a bridge as a joke. The width of the new platform made it ridiculous. Since he became chairman, said Mr. Willmott, their fares, from being highest in the country, 2½d. a mile, had become the lowest. They had set the example of a three-halfpenny first-class fare. They jeopardised £5,000 a year by the change, and never had they had a better year, and never were there so many people in the Island as a result of this reduction of fares, yet this through traffic had declined 10 per cent. as against a general increase of 20 per cent. The Freshwater carriages still had the old-fashioned oil lamps of fifty years ago.—Mr. Sankey, K.C., for the defence, declared that the Freshwater Company would not be able to bear the expense of running into the other station. Mr. Willmott and his vice-chairman got judgment against the Freshwater Company for arrears of interest on their debentures, which put them in the position for applying for a receiver, but the others were before them. The matter went into the hands of Sir Sam Fay and Mr. Aman. "Had it been Mr. Willmott and Mr. Herbert," said counsel, "we should have been finished. There is no public body behind this; the object is simply to squeeze us almost out of existence and buy us up at a knock-out price." Mr. Sankey, K.C., for the defendants, then suggested that the application was intended to hamper defendants because the Central were out to buy. The Chairman and Vice-Chairman of the Central, who owned debentures in the Freshwater line, had got judgment for arrears of interest. The Freshwater Company had reduced their fares in such a way that it was cheaper to travel by re-bookings. That accounted for a decrease in the through bookings. At the same time there was a notable increase in the local bookings. Mr. Justice Bankes enquired what burden would be placed on the Freshwater Company by requiring it to run into the junction. Sir Alfred Cripps replied that it should be an instruction to the arbitrator that it cost them no more than the upkeep of their new station,

of the Freshwater Company, in connection with Mr. Aman, ment by which the Central were working the Freshwater line and giving the Freshwater Company 25 per cent. of the gross receipts, the onus of maintenance and repairs being upon the owning company. At that rate the Freshwater concern would have fallen into the hands of the Central at practically the Central's own price. He added that at once by the new station passengers got into the town more quickly, and the new arrangement was the better one. With good will all could be settled by a through train from Freshwater to Cowes, dropping perhaps at Newport in the summer a through carriage for Ryde. Mr. Willmott might let a carriage run





# MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

Peninsula and Great South Street Railway.  
at 1.

John 2048 Gerrard. Telegraphic address, Altimetry, London.)

## MIDLAND GREAT WESTERN RAILWAY.

requisition of shareholders. In his opinion the time was hardly

Worthington in 1910, and contemplated, in addition to the

prepared to participate in carrying out the scheme on certain conditions, and correspondence and interviews took place

naturally largely interested owing to the proposal to establish  
traffics. The London and North Western Railway Com-  
that they would oppose the Bill if it contained any

Pearson's firm then stated that without the active cooperation  
Midland Great Western Railway it would be useless to proceed,

the scheme. Under these circumstances Messrs.  
Pearson withdrew. In August, 1912, Mr. Worthington again  
forward his Bill, this time omitting the train ferries,

year. On December 6 Mr. Worthington asked the board to

was opposed to the scheme. He declined to give

advice, but intimating that it was his intention to make the

of the board must depend largely on the answer received from

him when Mr. Worthington brought forward his Bill again.  
Mr. Worthington was now seeking to have the resolution

scheme. Mr. Worthington also sought the shareholders'  
authority to subscribe a sum not exceeding £2,000 towards  
the expenses of promoting his Bill in the coming session of  
Parliament.

promotion expenses, and not for any other purpose, and to  
repayment of the money to the company when the capital  
proposed to be authorised whatever to the resolution of

The board had no objection whatever to the resolution of  
November, 1910, being rescinded, but as to the second and  
third proposed resolutions they could not recommend the share-  
holders to authorise any subscription towards promoting this  
Bill unless they had some reasonable proof that the scheme  
could be successfully carried out, and they, as trustees of the  
shareholders, must also judge as to whether the prospects of  
success were reasonable or not. The circulars sent out by  
Mr. Worthington had been in some instances gross and  
inaccurate. Notwithstanding the campaign so vigorously  
prosecuted by Mr. Worthington, the directors were confident  
that they had the full support and approval of the great majority  
of the shareholders in acting, as they considered they had done,  
in the best interests of the company, having regard to the  
manner in which the scheme had been presented to them.  
(Applause.)

1910, authorising the Midland Great Western Company to  
subscribe £5,000 towards the promotion expenses of a Bill  
to carry out the Gt. Western-Barnet Transatlantic port and harbour

£5,000 towards the promotion in the next session of  
Parliament of a Bill to obtain the necessary statutory powers

disclosing the name of the Canadian financier he was ready  
to supply the capital if the Bill were passed. The board did  
not believe him when he told them that he had got a promise  
of the capital, and it was to get rid of that Bill, and the Sir  
William Mackenzie permitted him to disclose his name. He  
assumed that all the shareholders were of opinion that the

if some new development did not take place which would  
create a new source of traffic for their railroads they were not  
likely to improve permanently. The invasion of the western  
territory, which properly belonged to this company, by the  
companies had tapped the traffic which in the past had been

remaining traffic was in danger of being lost to the company.



proposals to the Secretary of State for the construction of a series of chord lines 347 miles in length. No answer had yet been received to the latter proposal, although two years had passed since it was made. In regard to the former, a reply was received in December last that the district boards did not desire the company's assistance in getting their railways financed. The chairman of all the Indian railways had recently had an interview with the Secretary of State (Lord Crewe) and had as gently as they possibly could put their representations before him, and he believed that progress would be made. The Government officials no doubt meant well, but at the same time the company felt that they had been neglected and that they had incurred considerable obloquy in India, inasmuch as they had been accused of retarding

As to the company's business, the report stated in detail the record progresses which had been made during the last five years, each year's business exceeding that of the previous one, both as regarded gross and net earnings and the number and amount of passengers and goods the company were able to carry. In fact, it was an abounding traffic, and if the Secretary of State would furnish them with some money or allow them to raise it, it would enable them to obtain a much larger income than at present. Taking the five years from 1908 to 1912, the total number of passengers carried rose from 28 millions to 38 millions. The figures were remarkable inasmuch as the increase was in all classes of passengers, especially in the third. As the company took over the broad gauge system in 1908, some might think that the increase, and the broad gauge 6½ per cent. (Hear, hear.) The

the stockholders would approve of the way in which the board proposed to deal with the dividend. The dividend for 1912 was made up to 4½ per cent., and the board proposed to pay the same dividend for the present year. The dividends to be paid from surplus profits would absorb £7,002, and a balance would be left of £32,573 to be carried forward. This substantial balance would not only help to equalise the dividends year by year, but it would tend to keep up the stability of the stock. With regard to the prospects for the current year, which commenced on April 1 last, cable advices showed that up to September 30 the receipts had been £964,000 odd and the working expenses £522,000 odd, leaving a balance of upwards of £441,000. (Applause.) The company would receive a sum equal to 2.83 per cent. on the capital, which for the half-year would be extremely satisfactory. The surplus profits, however, were not payable until the results of the whole year to March 31

would depend not upon the figures actually attained, but on what the second half-year might produce. Unfortunately the directors had just heard that the main line had been badly breached by floods, chiefly caused by the bursting of some rivers on the east or Coromandel coast. The bridges were not seriously damaged, but the traffic was likely to be interrupted for a month. There was nothing, however, to indicate a falling off in business; so that, although the disaster might affect the net earnings of the system so as to make them smaller for the year, the stockholders had the satisfaction of knowing that with their reserves they might hope to keep their

unanimously.

The dividends recommended in the report having been agreed to, the retiring director (Mr. Nottman) and the auditors were accorded to the agent and the staff generally for their past

Mr. NEVILLE PHILLIPS seconded the resolution, which was carried unanimously without discussion.

proceedings.

## CANADIAN NORTHERN RAILWAY.

at freight traffic, \$18,501,027; express, mail, interest, and expenses (including taxes, etc.), \$17,503,011; net earnings, annum paid on income charge convertible debenture stock outstanding, \$988,214; net surplus for year, \$844,720.

The working expenses were 74.64 per cent. of the gross earnings of railway proper and including taxes 72.10 per cent. of the gross earnings from all sources, compared with 73.82 per cent. and 71.81 per cent. respectively last year. During the year 230 miles of newly constructed tracks were added to the system, the average mileage operated being 1,207 miles. Land sales were 10,755 acres for \$201,193, an average of \$14.74 per acre, after making certain adjustments in respect of sales in previous years. The actual average price during the current year was \$15.30 per acre.

The earnings derived by the company from the Great crop would have been greatly increased if the Canadian Northern Transcontinental line were in operation. Excellent progress has been made during the year, and by the close of the present year connection will have been established at Port Arthur with the eastern lines, and the last link in the chain, namely, the line through the Rocky Mountains, will be connected early in 1914. Public issues of £1,438,350 four per cent. perpetual consolidated debenture stock and of £2,057,012 five per cent. income charge convertible debenture stock were made during the year, and the whole of the proceeds have been, or are being, applied to the construction, improvement, and equipment of the line. The Parliament of Canada granted during the year to the Canadian Northern Ontario and the Canadian Northern Alberta Railways, parts of the Canadian Northern Railway system, a cash subsidy of \$15,040,000. This subsidy and those previously granted in aid of the system have been, or will be, expended on construction, improvements and equipment. All monies also received from the sale of the land grants or raised by securities have been expended in the same manner. The increase of \$7,000,000 in the capital stock of the company represents the amount issued to the Government of Canada pursuant to the provisions of the statute under which the cash

The directors give the following statement showing in concise form the company's growth during the past ten years:—

Mileage operated ..	
Passenger traffic ..	\$8,017,000
Freight traffic ..	\$18,501,027
Grain bushels ..	412,000
Live stock head ..	12,000,000
Logs and lumber (cords) ..	\$3,331,000
Coal (1000 tons) ..	32,500

The line of the Canadian Northern Ontario Railway has

together with the section connecting with the Western Lines at Port Arthur in a few months will enable the Canadian Northern system to retain a large volume of traffic originating



with the completion of the work of the department, the railway will be able to handle the traffic of the Canadian Northern Railway system access to the coast. The work is being done concurrently with the manguration of a Trans-Canada Railway, and the railway will enjoy a terminal situation in Montreal second

### SOUTH AUSTRALIAN RAILWAY.

Railways Commissioner, for the year ended June 30, 1913, has now been issued. It states that the capital expenditure on open lines totalled £14,400,750, being an increase of

was 1,008½ miles, and the average cost per mile was £8,575. The railway from Port Augusta to Oodnadatta, 478 miles in length, was worked under agreement with the Commonwealth

The following shows the working results :—

Line .. .. .	2,440
--------------	-------

The net revenue on State lines was £28,601, equal to 5.84 per cent. on the capital expenditure. The earnings of the Port Augusta-Oodnadatta Railway for the year were £75,800,

exclusive of extraordinary maintenance and interest charges, which are paid by the Commonwealth. The rate of interest

penditure has been increased from 3½ per cent. to 3 per cent. for the year.

the balance to debit of profit and loss, being the amount expended for interest out of general revenue by the Government in excess of the railway net revenue, and a debit balance

the balance mentioned loss on the working of the Port Augusta-Oodnadatta Railway, the net profit of £433,007 for the year not only clears that deficit, but for the first time in their

The comparative results during the last two years were as

1912-13	1911-12
---------	---------

an amount of £1,000,000, against £781,720. The number of cattle and horses carried was 121,000, being an increase of 2,000. The receipts per mile open were £1,440,

The following shows the expenditure with the comparison

	1911-12.	Inc. D.
including special re-placements)	720,075	

The extraordinary working expenditure, including the relaying, maintenance works, improvement to way, rolling stock, etc., amounted to £99,175, being a decrease of £42,614. The working expenses per mile open were £908, against £886, and the cost of working per train mile was 52.74d., against 51.54d. The percentage of working expenses to revenue was 62.71, as against 61.80. The train mileage increased from 6,020,151 to 6,342,874. During the year 228½ miles of line were opened for traffic. There are 478½ miles of new lines authorised, of which 154½ miles are at present under construction. The number of employees at the close of the year was 8,754.

The Acts of Parliament under which several developmental railways are being constructed do not provide the Railway Commissioner with any means by which he can meet the yearly loss which will be incurred in interest charges and working expenses in connection with the same, and while it is yet too early to determine with any accuracy the total loss likely to result, Mr. Moncreiff feels justified in asking that arrangements be made from time to time to recoup any losses which may be due to the construction of these new lines.

### CARRIBER, Columbia Railway

### SAN PEDRO DE LOS RIOS Railway.

accounts for the 13 months ending December 31, 1912. In

accounts was more than sufficient to cover all expenses, including debenture interest.

the total distribution on the debenture stock for the year to

development of the local traffic of the railway, and some improvements were being effected in the accommodation of the

year, and in the first four months of their new year there had falling off had been the greatly diminished demand for very high. Another adverse feature had been the money

of the railway had been completed. The construction of the steadily, and it was hoped that it would be completed by the

## GENERAL NEWS.

## ELECTRICAL ENGINEERS AND RAILWAY ELECTRIFICATION.

Papers on the following subjects are to be read before the Society of Electrical Engineers on the 24th inst. by the following Engineers:—

- "Some railway conditions governing electrification."
- "Electrification of railways as affected by traffic considerations."
- "Difficulties of the electrification of existing termini and goods yards and the effect of existing rolling stock on the main line electrification problem."
- "Generation of electrical energy for the purposes of main line traction."
- "The design of traction motors for alternating and continuous currents."
- "Rolling stock and its design and influence on the energy consumption of trains."
- "Electric locomotives."
- "Electric signalling on railways."
- There will also be a discussion on "Electric battery vehicles."

## PROPOSALS FOR NEW RAILWAYS.

ANATOLIAN.—It is reported from Berlin that Johann Bock, stated that he was engaged in discussing with the Deutsche Bank, as representative of the Anatolian and Baghdad Railway Companies, plans for the Baghdad-Basra section of the Baghdad Railway, and the branch to Hanekin, on the Persian frontier, connecting with the future Russian railways in Persia. There are also proposals for German and French lines.

GOWER LIGHT RAILWAY.—The directors of the London and North Western Railway Company have now agreed to work the Gower Light Railway. The railway is proposed to be constructed, at a cost of £100,000, from the Killay Station of the London and North Western Railway, along the north side of Fairwood Common, on to Reynoldston, then on to Knelston, and finally to a point above Port Eynon.

GREAT CENTRAL.—Public and other bodies in the Hollinwood, Oldham, and Rochdale districts are subscribing to a fund for the purpose of collecting data in support of the invitation which is to be given for the construction of a branch of the Great Central Railway. An interview is to be sought with Sir Sam Fay for the purpose of laying the data before him.

GREAT NORTHERN.—In order to deal with the increased volume of traffic arising from the opening of the Doncaster coalfields, the Great Northern Railway Company propose to lay down a number of additional sidings on the Balby side. The project will entail an expenditure of about £10,000. The existing lines through Balby Station are to be duplicated.

YORKSHIRE.—Tenders will shortly be invited for the construction of a light railway between Richmond and Reeth, in Swaledale. The distance is ten miles.

## THE UNREST AMONG EMPLOYEES.

MR. J. H. THOMAS, M.P., ON RECOGNITION AND MAINTENANCE

In the course of an address to members of the National Union of Railwaymen at Swindon on Sunday, Mr. J. H. Thomas, M.P., assistant secretary of the union, said:—As you will have seen during the past week, the whole of the union railwaymen have given notice to terminate the Conciliation Boards. I have seen it stated, as well as heard speeches from time to time, which have damned all kinds of conciliation. There are folks who say, in short, that you cannot conciliate the robber. I don't share those opinions. I say that in a complex system like the railway system, with the interests of the public always to be kept in mind, with the difficulties between grade and grade, some machinery for adjusting the differences between capital and labour is absolutely essential, and my answer and my criticism of those people who are to-day saying "Abolish your Conciliation Boards," is "What are you going to substitute in their place?" Therefore, he wanted to put before them the exact position as he understood it. The reason why every railway board in the country had been asked by the executive committee to give notice to terminate the scheme was not the desire nor intent to abolish the Conciliation scheme. The first thing

that would have to be done would be to get the men to agree that the National Union of Railwaymen had got to be truly and honestly recognised as the sole authority of the men. They also believed in taking the independent chairman away and giving the men and the railway companies the full responsibility of their decisions. The first thing the railway companies would say would be this, "If we have got to recognise the union, then we must have some guarantee that the men themselves will respect their union"; or, in other words, you cannot from public platforms denounce the railway companies for breaking their agreements if you are going to claim the same right yourselves to break any agreement made on your behalf. I say to you, frankly and fearlessly, that if official recognition does not carry with it loyalty on your part to observe any contract or agreement that is made, I, as a leader of men, would be ashamed to ask for it on your behalf." In further observations Mr. Thomas stated that if at any time the men thought that the union had made a bad bargain, they must get rid of those who made it, but at the same time they must faithfully observe the agreement. If that was their intention, then so far as the question of recognition was concerned, he was persuaded that they would not have much difficulty in getting over that stile. No argument, eloquence, or strategy on the part of the men's officials had been nearly so effective as the strong, driving force of the men inside the organisation. There were many general managers, as there were railway directors, who not only recognised the changed circumstances, the power of the men's organisation, and the justice of their claim, but were themselves anxious to meet it.

## CHESHIRE PLATELAYERS REFUSE TO PERFORM FOGGING DUTY.

Demands have been made for an increase of five shillings per week in wages and modification in working conditions by meetings of platelayers of the Cheshire Lines held at Liverpool, Irlam, Stockport, Glazebrook, and Garston. November 20 was fixed as a date for refusing all special duty, including fogging, in the event of the demands not being conceded. A further request is for the reinstatement of four men who had been discharged for refusing to undertake such duty. Unless the company showed a willingness to negotiate immediately, a "vigilance committee" for the Liverpool district have resolved to recommend "a more drastic step."

## RAILWAY CLERKS' SALARIES.

The railway clerks of Liverpool have passed a resolution supporting the national movement of the Railway Clerks' Union for a minimum scale rising to £150 at the age of 37 years.

A similar resolution was passed on Saturday at Glasgow, where the Association has a membership of 1,100. The national membership numbers 24,000, and of that total 5,000 are stated to have joined during the present year.

Acting against the advice of the union, the platelayers of the Great Western Railway between Chester and Shrewsbury on Monday appeared by deputation before the officials of the company to demand a minimum wage of 30s., an eight hours day, and an annual holiday of six days with full pay. If the claim is rejected it is stated that the men intend to refuse all special duties necessary for the safe and efficient working of the railway.

## LONDON AND SOUTH WESTERN EMPLOYEES.

At a meeting of London and South Western drivers, firemen, guards, &c., held at Lambeth, a resolution was passed expressing surprise at the directors' refusal to receive a deputation respecting heavy loading of trains, the alleged undermanning, and the general speeding-up. They also unanimously rejected the directors' proposal to appeal to the heads of departments sectionally, as this course was considered to be ineffective.

A number of constables employed by the company recently joined the National Union of Railwaymen. The company has requested them to decide between leaving that body or ceasing to act as railway policemen. It is pointed out by the company that in the event of a strike, policemen who were members of the same union as the strikers could not possibly do their duty both to the union and to the company.

## HIGHLAND RAILWAYS ASSOCIATION.

The Highland Railways Association, which was formed in 1908, has held its annual meeting at Glasgow on November 18th and 19th. The association is composed of the following railways:—

## RAILWAYMEN'S CONVALESCENT HOMES IN KENT AND CHESHIRE.

At a meeting held by the Rt. Hon. Sir William Hart Dyke, M.P., at London, Chatham and Dover Railway Company, on the 11th inst., in support, on behalf of the railway men's convalescent homes in Kent and Cheshire. There are few institutions of the kind which have been framed upon lines more sound and businesslike and which carry out more successfully the object of those who brought them into being. The first principle adopted in the homes has been the direct encouragement of thrift and self-sacrifice amongst all grades of railwaymen, and thus to secure and maintain the comfort and advantages which the homes afford. Railwaymen have been encouraged to pay each at least a halfpenny per week towards the necessary funds, thus securing for themselves a vested interest in the future of the homes. The rapidity of the growth of the institutions affords abundant evidence of their popularity and of the splendid position they now occupy in the railway world.

A word as to administration. This is secured by a board of trustees representing the larger lines, assisted by a general committee, on which all the subscribing lines are represented, at present numbering about 136. All questions of serious expenditure are submitted for the decision of the trustees, who sign all cheques issued. They are also legal possessors of the property.

The institutions can claim two strong points to boast: sympathy, attention and support: First, the railwaymen contribute to these institutions themselves; and the money received from the staff in any one year has always proved sufficient to pay the expenses of maintenance for that year; Second, the important work of both trustees and committeemen has been carried out without any charge upon the subscriptions of the public, or of the railwaymen.

A meeting will be held on Thursday, November 21, at the London Restaurant, 11, The Old Bailey, at which Sir William Hart Dyke will preside. Contributions should be forwarded to Mr. W. R. R. Colton, Secretary, 110, Abchurch Lane, S.W.

## PERSONAL.

**Mr. C. W. Barton**, of Cromer, has been appointed to succeed Mr. G. Jessup, the Norwich district passenger superintendent of the Great Eastern Railway, at the end of the year.

**Mr. J. Antoine**, on resigning after forty years' service from the mileage department of the Railway Clearing House, has been presented with a gold watch, and his wife with a gold bracelet, by his fellow clerks.

**Mr. William C. Brown** has resigned the presidency of the New York Central and Hudson Railroad, the Lake Shore and Michigan Southern Railroad, the Michigan Central Railroad, and the "Big Four."

**Mr. F. J. Woodbridge**, district goods superintendent, London and South Western Railway, has been elected as a member of the council of the Plymouth Chamber of Commerce, in place of Mr. F. P. Wharton, who in August last was transferred to Southampton to occupy the position of assistant dock master.

**Sir William J. Goulding**, Bart., D.L., has been re-elected president of the Railway and Steam Packet Companies' Irish Athletic and Social Union, Dublin. The cup which he gave for a Rugby football contest last year was won by the Great Southern team, who defeated the Great Northern representatives. The Railway Union won the shield presented by the Earl of Aberdeen for a relay race open to the railway companies in the British Isles.

**Mr. E. A. Watson**, works manager to the Great Southern and Western Railway Company, has been appointed locomotive engineer and superintendent of the locomotive, carriage and wagon shops at Inchicore. Mr. Watson's railway service began with the American Locomotive Company, Schenectady, New York, in the shops and drawing office. From there he entered the locomotive shops of the Pennsylvania Railway Company at Altoona, Pa. Subsequently he went to the Great Western Railway (England), and was assistant works manager at Swindon when appointed to the position of works manager at Inchicore on the promotion of Mr. Maunsell as locomotive engineer. Mr. Watson is an Irishman.

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Mr. C. C. Macrae, deputy chairman of the London, Brighton and South Coast Railway, has offered a challenge cup for competition by the patrons in the annual dinner at the Marlborough Hotel. Pressing in the distribution of awards is competition with the Brighton district. Mr. Macrae expressed his belief in the importance of the annual dinner in the railway world, and his belief that the annual dinner is the only one of its kind in the world.

Mr. J. I. Naisby, assistant locomotive superintendent to the North Eastern Railway at Newcastle, has been appointed to succeed Mr. Cloughton as its chief engineer at the end of the year. Mr. Naisby has had a varied experience of railway work, for in 1891 he joined the Great Northern Railway at York, and in 1893, at Bedlington, he, in 1900, became assistant district goods manager at Newcastle. Mr. R. Bell, assistant to the chief locomotive superintendent at Newcastle, as assistant district goods manager in place of Mr. Naisby. Mr. Bell returned to service in the general goods manager's office at York in 1908, having two years later, for the Harrogate, where for some years he held responsible positions. In 1907 Mr. Bell returned to the locomotive.

Mr. R. I. L. Maunsell, locomotive, carriage and wagon superintendent of the Great Southern and Western Railway, Ireland, has been selected to succeed Mr. Harry S. Wright, who, owing to ill-health, is resigning his position as chief mechanical engineer of the South Eastern and Chatham Railway. Mr. Maunsell began his engineering training at Inchicore Works, Dublin. After spending several years there he joined the Lancashire and Yorkshire Railway, serving first in the works and drawing office at Horwich, and later occupying the post of locomotive foreman in charge of the Birmingham and Liverpool division. In 1894 he went to India as assistant locomotive superintendent of the East Indian Railway, being subsequently appointed district locomotive superintendent of the Asansol district. Two years later he returned to the Great Southern and Western Railway at Inchicore as works manager under Mr. Robert Coey, until, on the resignation of Mr. Coey through ill-health, Mr. Maunsell was appointed locomotive superintendent in June, 1911.

Mr. Manning, the Crewe signalman, who, during the past year, has acted as Mayor, was accorded a hearty vote of thanks by the Corporation on retiring from that position. The mover of the resolution observed that Sir Gilbert Cloughton said at the banquet to the retiring Mayor: "He had known the secret of how to give his personal service to his fellow-citizens. I don't know that secret, but I sum it up in some such way as this, that he, at any rate, has left out of consideration his own ease and his own comfort, and has manfully done his duty in that position to which God has been pleased to call him." Sir Frank Ree, speaking on the same occasion, said he had never seen their Majesties received in better style than they had been received by the Mayor of Crewe. At the banquet the Mayor made one of the wisest, most winning and diplomatic speeches, and in that speech alone he laid the foundations for a finer and a better understanding between the railway company and the Corporation. The railway company have placed a tablet in the signal-box recording Mr. Manning's occupancy of the civic chair and his reception of the King and Queen at the Crewe works.

## RAILWAY NOTES.

London and South Western Railway Electrification. Scholey and Co., Ltd., have received an order for their special tool steel gears and pinions from the British Westinghouse Electric Company for the whole of the equipments required in the electrification of the suburban lines of the London and South Western Railway. This constitutes the largest single order ever placed in this country for gears and pinions.

New Station at Harrow. In consequence of the growth of Harrow at the foot of the hill, the Metropolitan Railway, on Nov. 17, opened a new station on the Uxbridge branch to be called "West Harrow." There are 21 trains each way during the day, and through trains from and to the City night and morning.

Underground Mail Tube System. A demonstration of the system of tube conveyors for carrying mail sacks has been given by the Electric Carrier Company of New York. A demonstration plant costing £12,000 had been erected in New Jersey. Steel cylindrical carriers weighing 1,200 lb. are propelled in a 36 in. steel tube by a magnetic induction system controlled from a distant push-button operating desk. Cars

are propelled by a magnetic induction system, and the system is controlled by a magnetic induction system.

Tredegar and the London and North Western Railway.—Replying to the question asked by Mr. T. W. Crothers, Minister of Labour, Mr. Cloughton, the chairman of the London and North Western Railway, said that the railway would be most ready considered with favourable intentions. There were big difficulties. The distance from the town to the railway was 100 miles, but they would try to do the town justice. The order for the railway was 100 miles.

Grand Trunk Railway Employees Seeking Improved Conditions.—The Grand Trunk Railway employees on the Canadian Pacific Railway, from coast to coast, want an increase in pay, with better working conditions than now prevail. Through their representatives they have been in communication with the company, and the Hon. T. W. Crothers, Minister of Labour, has consented. The men have named Mr. H. Irwin, of Portage La Prairie, as their representative, and the company Mr. Wallace Nesbitt, K.C., of London.

Road Motor Vehicles for Strike Breaking.—The chief factor in the use of motor vehicles, The Railway Rates Committee of the Birmingham Chamber of Commerce has recently reported that, having regard to the very serious inconvenience which occurred during even a short railway strike, they had considered the question of establishing a register of commercial motor vehicles, which might be available for the use of others than the owners in times of serious emergency at a charge. The committee has recommended that the Government should traders a communication setting forth the object of such a register and its possible great usefulness.

## DIVIDEND ANNOUNCEMENTS.

London and South Western Railway.—A dividend of 11 per cent. on the ordinary shares, payable December 27.

Metropolitan Railway.—A dividend of 11 per cent. on the preferred shares has been declared.

Great Southern and Western Railway.—After paying the full dividends on the first and second income preference stocks the directors recommend a distribution of 1½ per cent. on the ordinary income stock in respect of the six months ended June 30 last.

Great Southern of Spain Railway.—An interim payment on the income debenture stock of 2 per cent. on account of the year ending December 31, 1913.

Metropolitan Wagon, Carriage and Finance Company.—An interim dividend at the rate of 7½ per cent. per annum, has been declared. A year ago the dividend was at the same rate.

## PECKETTS' LOCOMOTIVES

PECKETT & SONS,  
MANUFACTURERS OF LOCOMOTIVES.

## MIDLAND

RAILWAY CARRIAGE & WAGON CO., LTD.

Builders of  
RAILWAY CARRIAGES,  
RAILWAY WAGONS,  
TRAMWAY CARS,  
and every description of Rolling Stock.

MIDLAND WORKS, BIRMINGHAM,  
and Abbey Works, Shrewsbury.

## RAILWAY STOCK AND SHARE LIST.

## HOME RAILWAY ORDINARY STOCKS.

NAME.	CLOSING PRICES.			NAME.	CLOSING PRICES.		
	Yesterday.	Last Week.	A Year Ago.		Yesterday.	Last Week.	A Year Ago.
Accrington, Ord.	171	175	171	175	162	162	162
Do. Pref. Conv. Ord. (4%)	81	85	81	85	82	84	84
Calderdale, Ord.	711	721	709	71	78	77	77
Do. Pref. Conv. Ord. (8%)	54	59	55	54	59	58	58
Do. Def. Conv. Ord.	174	18	179	178	194	198	198
Do. Def. Ord. No. 1	112	118	112	2	212	3	148
Camelion, Ord. Capital, No. 1	112	112	112	2	212	3	148
Do. Cons. Conv. Ord.	63	65	60	65	82	84	84
Cardiff, Pref. Ord., 1896 (4%)	75	75	75	77	77	77	77
Central London, Ord.	61	66	61	65	82	84	84
Do. Pref. Ord.	70	75	70	75	82	84	84
Do. Def. Ord.	63	65	60	65	82	84	84
City & South London, Cons. Ord.	6	6	6	6	58	59	59
East London, Cons.	24	26	24	26	98	98	98
Furness, Cons. Ord.	35	36	35	37	40	42	42
Glasgow & S.W. Western Pref. Ord.	35	35	35	35	35	35	35
Do. Def. Ord.	31	32	31	32	43	44	44
Great Central, Pref. Ord. (6%)	274	284	27	272	304	314	314
Do. Def. Ord.	126	13	126	126	148	14	14
Great Eastern, Ord.	474	484	46	484	484	484	484
Great N. of Scotland, Pf. Conv. Ord.	52	55	55	55	58	58	58
Do. Def. Conv. Ord.	19	20	17	18	16	18	18
Great Northern, Pref. Conv. Ord.	81	82	81	82	84	84	84
Do. Def. Conv. Ord.	511	511	511	511	511	511	511
Do. Cons. A	484	484	484	484	484	484	484
Do. Cons. B	126	125	125	125	134	134	134
Great Western, Cons. Ord.	115	115	115	115	118	118	118
Highland, Ord. Cons. Capital	45	49	35	38	58	58	58
Hull & Barnsley, Cons. Ord.	344	344	344	344	344	344	344
Isle of Wight, H. Cons. Ord. (4%)	10	12	10	12	12	12	12
Do. Def. Conv. Ord.	68	68	68	68	68	68	68
Launce & Yorks. Cons. Ord.	102	102	102	102	102	102	102
London Brighton & S. Coast, Ord.	102	102	102	102	102	102	102
Do. Pref. Conv. Ord.	119	121	119	121	121	121	121
Do. Def. Ord.	87	87	87	87	87	87	87
Do. Cart. Conv. Rights attached	8	8	8	8	8	8	8
London Chat. & Dover, Arbit. Ord.	161	161	158	158	228	228	228
London and North Western, Cons.	1264	1274	1254	1254	135	135	135
London and South Western, Cons.	112	114	111	111	120	122	122
Do. 4% Pref. Conv. Ord.	791	801	791	791	81	85	85
Do. Def. Ord.	543	544	543	543	544	544	544
Mersey, Cons. Ord.	4	6	4	6	4	6	4
Metropolitan, Cons.	534	544	534	534	57	57	57
Do. Surplus Lands Stock	51	51	51	51	51	51	51
Metropolitan District, Ord.	28	29	27	28	29	29	29
Midland, Pref. Conv. Ord. (4%)	554	564	554	554	58	58	58
North Devon & S.W. Jan. Ord.	70	70	69	70	70	70	70
North British, Ord. Pref. (3%)	591	591	591	591	591	591	591
Do. Def. Ord.	238	238	27	27	27	27	27
N. Cornwall (L.&L.) 4% Pref. Or.	—	—	—	—	30	32	32
Do. Def. Ord.	—	—	—	—	45	45	45
North Eastern, "Consols"	1191	119	1174	1174	121	122	122
North London, Cons.	31	31	31	31	31	31	31
North Staffordshire, Cons. Ord.	80	82	80	82	86	88	88
Plymouth Devon & S.W. Jan. Ord.	44	47	44	47	48	48	48
Port Talbot Railway and Docks	19	19	19	19	19	19	19
Rhonda and Swansea Bay	11	11	11	11	11	11	11
Ramsey, Cons. Ord. Cap. Stock	165	170	165	170	170	170	170
Do. Pref. Ord. (4%)	74	81	74	81	81	81	81
Do. Def. Ord.	591	591	591	591	591	591	591
Sheffield District, £10 Shares	4	4	4	4	4	4	4
South Eastern, Ord.	85	85	81	81	91	91	91
Do. Def. Ord.	115	115	115	115	115	115	115
Do. Def. Ord.	134	134	134	134	134	134	134
Stratford & Mid. June Cons. Ord.	34	37	34	37	39	42	42
Taff Vale, Ord.	714	72	71	72	72	72	72
Vale of Glamorgan, Ord.	83	83	83	83	83	83	83
Underground Elec. Ry. of London	358	358	358	358	358	358	358
"A" Ordinary	—	—	—	—	—	—	—

## Debenture Stocks.

Alexandra Docks and Railway	4%	93	91
Berry	4	84	84
Brecon and Merthyr	4	84	84
Do. Pref. B	4	84	84
Calderdale	4	84	84
Camelion A	4	84	84
Do. B	4	84	84
Do. C	4	84	84
Do. D	4	84	84
Cardiff	4	84	84
Central London	4	84	84
City and South London	4	84	84
East London	4	84	84
Do. 2nd Charge B	4	84	84
Do. 3rd Charge B	4	84	84
Do. 4th Charge B	4	84	84
Do. 5th Charge B	4	84	84
Do. 6th Charge B	4	84	84
Do. 7th Charge B	4	84	84
Do. 8th Charge B	4	84	84
Do. 9th Charge B	4	84	84
Do. 10th Charge B	4	84	84
Do. 11th Charge B	4	84	84
Do. 12th Charge B	4	84	84
Do. 13th Charge B	4	84	84
Do. 14th Charge B	4	84	84
Do. 15th Charge B	4	84	84
Do. 16th Charge B	4	84	84
Do. 17th Charge B	4	84	84
Do. 18th Charge B	4	84	84
Do. 19th Charge B	4	84	84
Do. 20th Charge B	4	84	84
Do. 21st Charge B	4	84	84
Do. 22nd Charge B	4	84	84
Do. 23rd Charge B	4	84	84
Do. 24th Charge B	4	84	84
Do. 25th Charge B	4	84	84
Do. 26th Charge B	4	84	84
Do. 27th Charge B	4	84	84
Do. 28th Charge B	4	84	84
Do. 29th Charge B	4	84	84
Do. 30th Charge B	4	84	84
Do. 31st Charge B	4	84	84
Do. 32nd Charge B	4	84	84
Do. 33rd Charge B	4	84	84
Do. 34th Charge B	4	84	84
Do. 35th Charge B	4	84	84
Do. 36th Charge B	4	84	84
Do. 37th Charge B	4	84	84
Do. 38th Charge B	4	84	84
Do. 39th Charge B	4	84	84
Do. 40th Charge B	4	84	84
Do. 41st Charge B	4	84	84
Do. 42nd Charge B	4	84	84
Do. 43rd Charge B	4	84	84
Do. 44th Charge B	4	84	84
Do. 45th Charge B	4	84	84
Do. 46th Charge B	4	84	84
Do. 47th Charge B	4	84	84
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Do. 49th Charge B	4	84	84
Do. 50th Charge B	4	84	84
Do. 51st Charge B	4	84	84
Do. 52nd Charge B	4	84	84
Do. 53rd Charge B	4	84	84
Do. 54th Charge B	4	84	84
Do. 55th Charge B	4	84	84
Do. 56th Charge B	4	84	84
Do. 57th Charge B	4	84	84
Do. 58th Charge B	4	84	84
Do. 59th Charge B	4	84	84
Do. 60th Charge B	4	84	84
Do. 61st Charge B	4	84	84
Do. 62nd Charge B	4	84	84
Do. 63rd Charge B	4	84	84
Do. 64th Charge B	4	84	84
Do. 65th Charge B	4	84	84
Do. 66th Charge B	4	84	84
Do. 67th Charge B	4	84	84
Do. 68th Charge B	4	84	84
Do. 69th Charge B	4	84	84
Do. 70th Charge B	4	84	84
Do. 71st Charge B	4	84	84
Do. 72nd Charge B	4	84	84
Do. 73rd Charge B	4	84	84
Do. 74th Charge B	4	84	84
Do. 75th Charge B	4	84	84
Do. 76th Charge B	4	84	84
Do. 77th Charge B	4	84	84
Do. 78th Charge B	4	84	84
Do. 79th Charge B	4	84	84
Do. 80th Charge B	4	84	84
Do. 81st Charge B	4	84	84
Do. 82nd Charge B	4	84	84
Do. 83rd Charge B	4	84	84
Do. 84th Charge B	4	84	84
Do. 85th Charge B	4	84	84
Do. 86th Charge B	4	84	84
Do. 87th Charge B	4	84	84
Do. 88th Charge B	4	84	84
Do. 89th Charge B	4	84	84
Do. 90th Charge B	4	84	84
Do. 91st Charge B	4	84	84
Do. 92nd Charge B	4	84	84
Do. 93rd Charge B	4	84	84
Do. 94th Charge B	4	84	84
Do. 95th Charge B	4	84	84
Do. 96th Charge B	4	84	84
Do. 97th Charge B	4	84	84
Do. 98th Charge B	4	84	84
Do. 99th Charge B	4	84	84
Do. 100th Charge B	4	84	84

## Debenture Stocks (continued).

North London	4 1/2	103	111
North Staffordshire	4	75	75
North Western	4	84	84
Port Talbot Railway and Docks	4	93	98
Ramsey and Salford Bay	4	93	93
Ramsey	4	93	93
South Eastern	4	93	92
South Western	4	93	92
Stratford & Mid. June Cons. Ord.	4	93	100
Taff Vale	4	12	123
Vale of Glamorgan	4 1/2	83	87
Vale of Glamorgan	4	83	87
Vale of Glamorgan	4	72	74
Vale of Glamorgan	4	90	97
Wentworth & Mid. June Cons. Ord.	4	90	93

Preference Stocks.

DEBENTURES AND PREFERENCE STOCKS OF RAILWAYS

Acc. 1st Pref. A	95	93
Acc. 1st Pref. B	93	93
Acc. 1st Pref. C	117	119
Acc. 1st Pref. D	95	95
Acc. 1st Pref. E	95	95
Acc. 1st Pref. F	95	95
Acc. 1st Pref. G	95	95
Acc. 1st Pref. H	95	95
Acc. 1st Pref. I	95	95
Acc. 1st Pref. J	95	95
Acc. 1st Pref. K	95	95
Acc. 1st Pref. L	95	95
Acc. 1st Pref. M	95	95
Acc. 1st Pref. N	95	95
Acc. 1st Pref. O	95	95
Acc. 1st Pref. P	95	95
Acc. 1st Pref. Q	95	95
Acc. 1st Pref. R	95	95
Acc. 1st Pref. S	95	95
Acc. 1st Pref. T	95	95
Acc. 1st Pref. U	95	95
Acc. 1st Pref. V	95	95
Acc. 1st Pref. W	95	95
Acc. 1st Pref. X	95	95
Acc. 1st Pref. Y	95	95
Acc. 1st Pref. Z	95	95
Acc. 1st Pref. AA	95	95
Acc. 1st Pref. AB	95	95
Acc. 1st Pref. AC	95	95
Acc. 1st Pref. AD	95	95
Acc. 1st Pref. AE	95	95
Acc. 1st Pref. AF	95	95
Acc. 1st Pref. AG	95	95
Acc. 1st Pref. AH	95	95
Acc. 1st Pref. AI	95	95
Acc. 1st Pref. AJ	95	95
Acc. 1st Pref. AK	95	95
Acc. 1st Pref. AL	95	95
Acc. 1st Pref. AM	95	95
Acc. 1st Pref. AN	95	95
Acc. 1st Pref. AO	95	95
Acc. 1st Pref. AP	95	95
Acc. 1st Pref. AQ	95	95
Acc. 1st Pref. AR	95	95
Acc. 1st Pref. AS	95	95
Acc. 1st Pref. AT	95	95
Acc. 1st Pref. AU	95	95
Acc. 1st Pref. AV	95	95
Acc. 1st Pref. AW	95	95
Acc. 1st Pref. AX	95	95
Acc. 1st Pref. AY	95	95
Acc. 1st Pref. AZ	95	95
Acc. 1st Pref. BA	95	95
Acc. 1st Pref. BB	95	95
Acc. 1st Pref. BC	95	95
Acc. 1st Pref. BD	95	95
Acc. 1st Pref. BE	95	95
Acc. 1st Pref. BF	95	95
Acc. 1st Pref. BG	95	95
Acc. 1st Pref. BH	95	95
Acc. 1st Pref. BI	95	95
Acc. 1st Pref. BJ	95	95
Acc. 1st Pref. BK	95	95
Acc. 1st Pref. BL	95	95
Acc. 1st Pref. BM	95	95
Acc. 1st Pref. BN	95	95
Acc. 1st Pref. BO	95	95
Acc. 1st Pref. BP	95	95
Acc. 1st Pref. BQ	95	95
Acc. 1st Pref. BR	95	95
Acc. 1st Pref. BS	95	95
Acc. 1st Pref. BT	95	95
Acc. 1st Pref. BU	95	95
Acc. 1st Pref. BV	95	95
Acc. 1st Pref. BW	95	95
Acc. 1st Pref. BX	95	95
Acc. 1st Pref. BY	95	95
Acc. 1st Pref. BZ	95	95
Acc. 1st Pref. CA	95	95
Acc. 1st Pref. CB	95	95
Acc. 1st Pref. CC	95	95
Acc. 1st Pref. CD	95	95
Acc. 1st Pref. CE	95	95
Acc. 1st Pref. CF	95	95
Acc. 1st Pref. CG	95	95
Acc. 1st Pref. CH	95	95
Acc. 1st Pref. CI	95	95
Acc. 1st Pref. CJ	95	95
Acc. 1st Pref. CK	95	95
Acc. 1st Pref. CL	95	95
Acc. 1st Pref. CM	95	95
Acc. 1st Pref. CN	95	95
Acc. 1st Pref. CO	95	95
Acc. 1st Pref. CP	95	95
Acc. 1st Pref. CQ	95	95
Acc. 1st Pref. CR	95	95
Acc. 1st Pref. CS	95	95
Acc. 1st Pref. CT	95	95
Acc. 1st Pref. CU	95	95
Acc. 1st Pref. CV	95	95
Acc. 1st Pref. CW	95	95
Acc. 1st Pref. CX	95	95
Acc. 1st Pref. CY	95	95
Acc. 1st Pref. CZ	95	95
Acc. 1st Pref. DA	95	95
Acc. 1st Pref. DB	95	95
Acc. 1st Pref. DC	95	95
Acc. 1st Pref. DD	95	95
Acc. 1st Pref. DE	95	95
Acc. 1st Pref. DF	95	95
Acc. 1st Pref. DG	95	95
Acc. 1st Pref. DH	95	95
Acc. 1st Pref. DI	95	95
Acc. 1st Pref. DJ	95	95
Acc. 1st Pref. DK	95	95
Acc. 1st Pref. DL	95	95
Acc. 1st Pref. DM	95	95
Acc. 1st Pref. DN	95	95
Acc. 1st Pref. DO	95	95
Acc. 1st Pref. DP	95	95
Acc. 1st Pref. DQ	95	95
Acc. 1st Pref. DR	95	95
Acc. 1st Pref. DS	95	95
Acc. 1st Pref. DT	95	95
Acc. 1st Pref. DU	95	95
Acc. 1st Pref. DV	95	95
Acc. 1st Pref. DW	95	95
Acc. 1st Pref. DX	95	95
Acc. 1st Pref. DY	95	95
Acc. 1st Pref. DZ	95	95
Acc. 1st Pref. EA	95	95
Acc. 1st Pref. EB	95	95
Acc. 1st Pref. EC	95	95
Acc. 1st Pref. ED	95	95
Acc. 1st Pref. EE	95	95
Acc. 1st Pref. EF	95	95
Acc. 1st Pref. EG	95	95
Acc. 1st Pref. EH	95	95
Acc. 1st Pref. EI	95	95
Acc. 1st Pref. EJ	95	95
Acc. 1st Pref. EK	95	95
Acc. 1st Pref. EL	95	95
Acc. 1st Pref. EM	95	95
Acc. 1st Pref. EN	95	95
Acc. 1st Pref. EO	95	95
Acc. 1st Pref. EP	95	95
Acc. 1st Pref. EQ	95	95
Acc. 1st Pref. ER	95	95
Acc. 1st Pref. ES	95	95
Acc. 1st Pref. ET	95	95
Acc. 1st Pref. EU	95	95
Acc. 1st Pref. EV	95	95
Acc. 1st Pref. EW	95	95
Acc. 1st Pref. EX	95	95
Acc. 1st Pref. EY	95	95
Acc. 1st Pref. EZ	95	95
Acc. 1st Pref. FA	95	95
Acc. 1st Pref. FB	95	95
Acc. 1st Pref. FC	95	95
Acc. 1st Pref. FD	95	95
Acc. 1st Pref. FE	95	95
Acc. 1st Pref. FF	95	95
Acc. 1st Pref. FG	95	95
Acc. 1st Pref. FH	95	95
Acc. 1st Pref. FI	95	95
Acc. 1st Pref. FJ	95	95
Acc. 1st Pref. FK	95	95
Acc. 1st Pref. FL	95	95
Acc. 1st Pref. FM	95	95
Acc. 1st Pref. FN	95	95
Acc. 1st Pref. FO	95	95
Acc. 1st Pref. FP	95	95
Acc. 1st Pref. FQ	95	95
Acc. 1st Pref. FR	95	95
Acc. 1st Pref. FS	95	95
Acc. 1st Pref. FT	95	95
Acc. 1st Pref. FU	95	95
Acc. 1st Pref. FV	95	95
Acc. 1st Pref. FW	95	95
Acc. 1st Pref. FX	95	95
Acc. 1st Pref. FY	95	95
Acc. 1st Pref. FZ	95	95
Acc. 1st Pref. GA	95	95
Acc. 1st Pref. GB	95	95
Acc. 1st Pref. GC	95	95
Acc. 1st Pref. GD	95	95
Acc. 1st Pref. GE	95	95
Acc. 1st Pref. GF	95	95
Acc. 1st Pref. GG	95	95
Acc. 1st Pref. GH	95	95
Acc. 1st Pref. GI	95	95
Acc. 1st Pref. GJ	95	95
Acc. 1st Pref. GK	95	95
Acc. 1st Pref. GL	95	95
Acc. 1st Pref. GM	95	95
Acc. 1st Pref. GN	95	95
Acc. 1st Pref. GO	95	95
Acc. 1st Pref. GP	95	95
Acc. 1st Pref. GQ	95	95
Acc. 1st Pref. GR	95	95
Acc. 1st Pref. GS	95	95
Acc. 1st Pref. GT	95	95
Acc. 1st Pref. GU	95	95
Acc. 1st Pref. GV	95	95
Acc. 1st Pref. GW	95	95
Acc. 1st Pref. GX	95	95
Acc. 1st Pref. GY	95	95
Acc. 1st Pref. GZ	95	95
Acc. 1st Pref. HA	95	95
Acc. 1st Pref. HB	95	95
Acc. 1st Pref. HC	95	95
Acc. 1st Pref. HD	95	95
Acc. 1st Pref. HE	95	95
Acc. 1st Pref. HF	95	95
Acc. 1st Pref. HG	95	95
Acc. 1st Pref. HH	95	95
Acc. 1st Pref. HI	95	95
Acc. 1st Pref. HJ	95	95
Acc. 1st Pref. HK	95	95
Acc. 1st Pref. HL	95	95
Acc. 1st Pref. HM	95	95
Acc. 1st Pref. HN	95	95
Acc. 1st Pref. HO	95	95
Acc. 1st Pref. HP	95	95
Acc. 1st Pref. HQ	95	95
Acc. 1st Pref. HR	95	95
Acc. 1st Pref. HS	95	95
Acc. 1st Pref. HT	95	95
Acc. 1st Pref. HU	95	95
Acc. 1st Pref. HV	95	95
Acc. 1st Pref. HW	95	95
Acc. 1st Pref. HX	95	95
Acc. 1st Pref. HY	95	95
Acc. 1st Pref. HZ	95	95
Acc. 1st Pref. IA	95	95
Acc. 1st Pref. IB	95	95
Acc. 1st Pref. IC	95	95
Acc. 1st Pref. ID	95	95
Acc. 1st Pref. IE	95	95
Acc. 1st Pref. IF	95	95
Acc. 1st Pref. IG	95	95
Acc. 1st Pref. IH	95	95
Acc. 1st Pref. II	95	95
Acc. 1st Pref. IJ	95	95
Acc. 1st Pref. IK	95	95
Acc. 1st Pref. IL	95	95
Acc. 1st Pref. IM	95	95
Acc. 1st Pref. IN	95	95
Acc. 1st Pref. IO	95	95
Acc. 1st Pref. IP	95	95
Acc. 1st Pref. IQ	95	95
Acc. 1st Pref. IR	95	95
Acc. 1st Pref. IS	95	95
Acc. 1st Pref. IT	95	95
Acc. 1st Pref. IU	95	95
Acc. 1st Pref. IV	95	95
Acc. 1st Pref. IW	95	95
Acc. 1st Pref. IX	95	95
Acc. 1st Pref. IY	95	95
Acc. 1st Pref. IZ	95	95
Acc. 1st Pref. JA	95	95
Acc. 1st Pref. JB	95	95
Acc. 1st Pref. JC	95	95
Acc. 1st Pref. JD	95	95
Acc. 1st Pref. JE	95	95
Acc. 1st Pref. JF	95	95
Acc. 1st Pref. JG	95	95
Acc. 1st Pref. JH	95	95
Acc. 1st Pref. JI	95	95
Acc. 1st Pref. JJ	95	95
Acc. 1st Pref. JK	95	95
Acc. 1st Pref. JL	95	95
Acc. 1st Pref. JM	95	95
Acc. 1st Pref. JN	95	95
Acc. 1st Pref. JO	95	95
Acc. 1st Pref. JP	95	95
Acc. 1st Pref. JQ	95	95
Acc. 1st Pref. JR	95	95
Acc. 1st Pref. JS	95	95
Acc. 1st Pref. JT	95	95
Acc. 1st Pref. JU	95	95
Acc. 1st Pref. JV	95	95
Acc. 1st Pref. JW	95	95
Acc. 1st Pref. JX	95	95
Acc. 1st Pref. JY	95	95
Acc. 1st Pref. JZ	95	95
Acc. 1st Pref. KA	95	95
Acc. 1st Pref. KB	95	95
Acc. 1st Pref. KC	95	95
Acc. 1st Pref. KD	95	95
Acc. 1st Pref. KE	95	95
Acc. 1st Pref. KF	95	95
Acc. 1st Pref. KG	95	95
Acc. 1st Pref. KH	95	95
Acc. 1st Pref. KI	95	95
Acc. 1st Pref. KJ	95	95
Acc. 1st Pref. KK	95	95
Acc. 1st Pref. KL	95	95
Acc. 1st Pref. KM	95	95
Acc. 1st Pref. KN	95	95
Acc. 1st Pref. KO	95	95
Acc. 1st Pref. KP	95	95
Acc. 1st Pref. KQ	95	95
Acc. 1st Pref. KR	95	95
Acc. 1st Pref. KS	95	95
Acc. 1st Pref. KT	95	95
Acc. 1st Pref. KU	95	95
Acc. 1st Pref. KV	95	95
Acc. 1st Pref. KW	95	95
Acc. 1st Pref. KX	95	95
Acc. 1st Pref. KY	95	95
Acc. 1st Pref. KZ	95	95
Acc. 1st Pref. LA	95	95
Acc. 1st Pref. LB	95	95
Acc. 1st Pref. LC	95	95
Acc. 1st Pref. LD	95	95
Acc. 1st Pref. LE	95	95
Acc. 1st Pref. LF	95	95
Acc. 1st Pref. LG	95	95
Acc. 1st Pref. LH	95	95
Acc. 1st Pref. LI	95	95
Acc. 1st Pref. LJ	95	95
Acc. 1st Pref. LK	95	95
Acc. 1st Pref. LL	95	95
Acc. 1st Pref. LM	95	95
Acc. 1st Pref. LN	95	95
Acc. 1st Pref. LO	95	95
Acc. 1st Pref. LP	95	95
Acc. 1st Pref. LQ	95	95
Acc. 1st Pref. LR	95	95
Acc. 1st Pref. LS	95	95
Acc. 1st Pref. LT	95	95
Acc. 1st Pref. LU	95	95
Acc. 1st Pref. LV	95	95
Acc. 1st Pref. LW	95	95
Acc. 1st Pref. LX	95	95
Acc. 1st Pref. LY	95	95
Acc. 1st Pref. LZ	95	95
Acc. 1st Pref. MA	95	95
Acc. 1st Pref. MB	95	95
Acc. 1st Pref. MC	95	95
Acc. 1st Pref. MD	95	95
Acc. 1st Pref. ME	95	95
Acc. 1st Pref. MF	95	95
Acc. 1st Pref. MG	95	95
Acc. 1st Pref. MH	95	95
Acc. 1st Pref. MI	95	95
Acc. 1st Pref. MJ	95	95
Acc. 1st Pref. MK	95	95
Acc. 1st Pref. ML	95	95
Acc. 1st Pref. MM	95	95
Acc. 1st Pref. MN	95	95
Acc. 1st Pref. MO	95	95
Acc. 1st Pref. MP	95	95
Acc. 1st Pref. MQ	95	95
Acc. 1st Pref. MR	95	95
Acc. 1st Pref. MS	95	95
Acc. 1st Pref. MT	95	95
Acc. 1st Pref. MU	95	95
Acc. 1st Pref. MV	95	95
Acc. 1st Pref. MW	95	95
Acc. 1st Pref. MX	95	95
Acc. 1st Pref. MY	95	95
Acc. 1st Pref. MZ	95	95
Acc. 1st Pref. NA	95	95
Acc. 1st Pref. NB	95	95
Acc. 1st Pref. NC	95	95
Acc. 1st Pref. ND	95	95
Acc. 1st Pref. NE	95	95
Acc. 1st Pref. NF	95	95
Acc. 1st Pref. NG	95	95
Acc. 1st Pref. NH	95	95
Acc. 1st Pref. NI	95	95
Acc. 1st Pref. NJ	95	95
Acc. 1st Pref. NK	95	95
Acc. 1st Pref. NL	95	95
Acc. 1st Pref. NM	95	95
Acc. 1st Pref. NN	95	95
Acc. 1st Pref. NO	95	95
Acc. 1st Pref. NP	95	95
Acc. 1st Pref. NQ		



# RAILWAY STOCK AND SHARE LIST.

## Colonial Railways.

## Foreign Railways.

RAILWAY	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569	1568	1567	1566	1565	1564	1563	1562	1561	1560	1559	1558	1557	1556	1555	1554	1553	1552	1551	1550	1549	1548	1547	1546	1545	1544	1543	1542	1541	1540	1539	1538	1537	1536	1535	1534	1533	1532	1531	1530	1529	1528	1527	1526	1525	1524	1523	1522	1521	1520	1519	1518	1517	1516	1515	1514	1513	1512	1511	1510	1509	1508	1507	1506	1505	1504	1503	1502	1501	1500	1499	1498	1497	1496	1495	1494	1493	1492	1491	1490	1489	1488	1487	1486	1485	1484	1483	1482	1481	1480	1479	1478	1477	1476	1475	1474	1473	1472	1471	1470	1469	1468	1467	1466	1465	1464	1463	1462	1461	1460	1459	1458	1457	1456	1455	1454	1453	1452	1451	1450	1449	1448	1447	1446	1445	1444	1443	1442	1441	1440	1439	1438	1437	1436	1435	1434	1433	1432	1431	1430	1429	1428	1427	1426	1425	1424	1423	1422	1421	1420	1419	1418	1417	1416	1415	1414	1413	1412	1411	1410	1409	1408	1407	1406	1405	1404	1403	1402	1401	1400	1399	1398	1397	1396	1395	1394	1393	1392	1391	1390	1389	1388	1387	1386	1385	1384	1383	1382	1381	1380	1379	1378	1377	1376	1375	1374	1373	1372	1371	1370	1369	1368	1367	1366	1365	1364	1363	1362	1361	1360	1359	1358	1357	1356	1355	1354	1353	1352	1351	1350	1349	1348	1347	1346	1345	1344	1343	1342	1341	1340	1339	1338	1337	1336	1335	1334	1333	1332	1331	1330	1329	1328	1327	1326	1325	1324	1323	1322	1321	1320	1319	1318	1317	1316	1315	1314	1313	1312	1311	1310	1309	1308	1307	1306	1305	1304	1303	1302	1301	1300	1299	1298	1297	1296	1295	1294	1293	1292	1291	1290	1289	1288	1287	1286	1285	1284	1283	1282	1281	1280	1279	1278	1277	1276	1275	1274	1273	1272	1271	1270	1269	1268	1267	1266	1265	1264	1263	1262	1261	1260	1259	1258	1257	1256	1255	1254	1253	1252	1251	1250	1249	1248	1247	1246	1245	1244	1243	1242	1241	1240	1239	1238	1237	1236	1235	1234	1233	1232	1231	1230	1229	1228	1227	1226	1225	1224	1223	1222	1221	1220	1219	1218	1217	1216	1215	1214	1213	1212	1211	1210	1209	1208	1207	1206	1205	1204	1203	1202	1201	1200	1199	1198	1197	1196	1195	1194	1193	1192	1191	1190	1189	1188	1187	1186	1185	1184	1183	1182	1181	1180	1179	1178	1177	1176	1175	1174	1173	1172	1171	1170	1169	1168	1167	1166	1165	1164	1163	1162	1161	1160	1159	1158	1157	1156	1155	1154	1153	1152	1151	1150	1149	1148	1147	1146	1145	1144	1143	1142	1141	1140	1139	1138	1137	1136	1135	1134	1133	1132	1131	1130	1129	1128	1127	1126	1125	1124	1123	1122	1121	1120	1119	1118	1117	1116	1115	1114	1113	1112	1111	1110	1109	1108	1107	1106	1105	1104	1103	1102	1101	1100	1099	1098	1097	1096	1095	1094	1093	1092	1091	1090	1089	1088	1087	1086	1085	1084	1083	1082	1081	1080	1079	1078	1077	1076	1075	1074	1073	1072	1071	1070	1069	1068	1067	1066	1065	1064	1063	1062	1061	1060	1059	1058	1057	1056	1055	1054	1053	1052	1051	1050	1049	1048	1047	1046	1045	1044	1043	1042	1041	1040	1039	1038	1037	1036	1035	1034	1033	1032	1031	1030	1029	1028	1027	1026	1025	1024	1023	1022	1021	1020	1019	1018	1017	1016	1015	1014	1013	1012	1011	1010	1009	1008	1007	1006	1005	1004	1003	1002	1001	1000	999	998	997	996	995	994	993	992	991	990	989	988	987	986	985	984	983	982	981	980	979	978	977	976	975	974	973	972	971	970	969	968	967	966	965	964	963	962	961	960	959	958	957	956	955	954	953	952	951	950	949	948	947	946	945	944	943	942	941	940	939	938	937	936	935	934	933	932	931	930	929	928	927	926	925	924	923	922	921	920	919	918	917	916	915	914	913	912	911	910	909	908	907	906	905	904	903	902	901	900	899	898	897	896	895	89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## OFFICIAL TRAFFIC RETURNS.

Barry.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£16,523	£19,032	
Goods, etc.	£754,885	£655,551	
Total for week	654	654	
Aggregate for 46 weeks	£16,523	£19,032	
Miles open	1,117	1,114	
Inc. this week, £2,800	Inc. 46 weeks, £355,100		
Caledonian.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£25,400	£30,100	
Goods, etc.	59,600	59,200	
Total for week	4,561,900	4,228,700	
Aggregate for 46 weeks	4,561,900	4,228,700	
Miles open	1,117	1,114	
Inc. this week, £2,800	Inc. 46 weeks, £355,100		
Cambrian.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£2,541	£2,584	
Goods, etc.	3,355	3,175	
Total for week	5,896	5,759	
Aggregate for 46 weeks	£50,280	£28,425	
Miles open	300	287	
Inc. this week, £170	Inc. 46 weeks, £15,023		
Central London.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£5,545	£5,578	
Goods, etc.	£22,006	£216,595	
Total for week	64	64	
Aggregate for 46 weeks	£32	£16,511	
Miles open	64	64	
Inc. this week, £32	Inc. 46 weeks, £16,511		
City and South London.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£2,080	£2,421	
Goods, etc.	£12,927	£140,115	
Total for week	74	74	
Aggregate for 46 weeks	£119	£12,189	
Miles open	74	74	
Inc. this week, £119	Inc. 46 weeks, £12,189		
Dublin and South Eastern.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£2,539	£2,539	
Goods, etc.	1,887	1,884	
Total for week	4,426	4,423	
Aggregate for 46 weeks	£45,402	£20,000	
Miles open	160	160	
Inc. this week, £24	Inc. 46 weeks, £2,925		
Furness.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£2,530	£2,530	
Goods, etc.	7,358	7,358	
Total for week	18,945	10,176	
Aggregate for 46 weeks	£55,516	£44,504	
Miles open	159	159	
Inc. this week, £24	Inc. 46 weeks, £1,052		
Glasgow and South Western.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	20,900	19,700	
Total for week	£34,100	£32,000	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Great Central.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£20,600	£19,500	
Goods, etc.	72,800	72,200	
Total for week	293,400	292,100	
Aggregate for 46 weeks	£1,111,700	£1,115,100	
Miles open	5,290,300	4,684,000	
Inc. this week, £1,500	Inc. 46 weeks, £598,500		
Great Eastern.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Great Northern.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Great Northern (Ireland).			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Great North of Scotland.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Great Southern and Western.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Highland.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Hull and Barnsley.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Lancashire and Yorkshire.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
London, Brighton and South Coast.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
London and North Western.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
London and South Western.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Metropolitan.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Metropolitan District.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Midland.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Midland Great Western of Ireland.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
North British.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
North Eastern.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
North London.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
North Staffordshire.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Rhymney.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
South Eastern and Chatham.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		
Taft Vale.			
Week ending November 16	1913.	1912.	
Passengers, etc.	£1,200	£1,200	
Goods, etc.	59,100	59,100	
Total for week	20,900	19,700	
Aggregate for 46 weeks	£1,751,500	£1,520,000	
Miles open	4,700	4,700	
Inc. this week, £2,100	Inc. 46 weeks, £118,500		

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# OFFICIAL TRAFFIC RETURNS.

## BRITISH AND IRISH RAILWAYS. &c.

## FOREIGN AND COLONIAL *Continued*

Railway.	Mileage.		Latest Earnings Reported.		No. of Passengers.	Aggregate to Date.		Remarks.	Mileage.		Period.	Latest Earnings Reported.		No. of Passengers.	Aggregate to Date.	
	1911.	1912.	1911.	1912.		1911.	1912.					1911.	1912.		1911.	1912.
London & C. D.	80	80	Nov. 11	1,214.0	1,214	1,214.0	1,214.0	Salvador .....	110	110	July	18,250	18,250	18,250	18,250	18,250
London & N. W.	61	61	Nov. 16	2,800	2,800	2,800	2,800	Sao Paulo .....	110	110	July	18,250	18,250	18,250	18,250	18,250
London & W. R.	221	221	Nov. 16	1,410	1,410	1,410	1,410	Sibon, Punjab ..	426	426	July	4,45,211	4,45,211	4,45,211	4,45,211	4,45,211
London & S. W.	313	313	Nov. 15	800	800	800	800	Singapore .....	126	126	July	1,42,738	1,42,738	1,42,738	1,42,738	1,42,738
London & E. R.	332	332	Nov. 11	2,067	2,067	2,067	2,067	Singapore .....	21	21	July	2,067	2,067	2,067	2,067	2,067
London & N. E.	16	16	Nov. 11	227	227	227	227	Singapore .....	1,740	1,740	July	5,12,441	5,12,441	5,12,441	5,12,441	5,12,441
London & S. E.	574	574	Nov. 15	1,119	1,119	1,119	1,119	Singapore .....	151	151	October	28,215	28,215	28,215	28,215	28,215
London & W. S.	402	402	Nov. 15	718	718	718	718	Singapore .....	113	113	October	21,210	21,210	21,210	21,210	21,210
London & N. S.	141	141	Nov. 15	718	718	718	718	Singapore .....	71	71	October	20,555	20,555	20,555	20,555	20,555
London & W. S.	211	211	Nov. 15	630	630	630	630	Singapore .....	31	31	October	4,064	4,064	4,064	4,064	4,064
London & N. S.	40	40	Nov. 15	1,734	1,734	1,734	1,734	Singapore .....	117	117	Nov. 15	1,734	1,734	1,734	1,734	1,734
London & W. S.	169	169	Nov. 15	7,707	7,707	7,707	7,707	Singapore .....	112	112	Nov. 15	7,707	7,707	7,707	7,707	7,707
London & N. S.	42	42	Nov. 15	2,417	2,417	2,417	2,417	Singapore .....	112	112	Nov. 15	7,707	7,707	7,707	7,707	7,707
London & W. S.	43	43	Nov. 15	2,417	2,417	2,417	2,417	Singapore .....	112	112	Nov. 15	7,707	7,707	7,707	7,707	7,707
London & N. S.	60	60	Nov. 15	1,711	1,711	1,711	1,711	Singapore .....	112	112	Nov. 15	7,707	7,707	7,707	7,707	7,707
London & W. S.	40	40	Nov. 15	1,711	1,711	1,711	1,711	Singapore .....	112	112	Nov. 15	7,707	7,707	7,707	7,707	7,707
London & N. S.	303	303	Nov. 15	2,703	2,703	2,703	2,703	Singapore .....	112	112	Nov. 15	7,707	7,707	7,707	7,707	7,707
London & W. S.	31	31	Nov. 15	2,703	2,703	2,703	2,703	Singapore .....	112	112	Nov. 15	7,707	7,707	7,707	7,707	7,707
London & N. S.	08	08	Nov. 15	2,703	2,703	2,703	2,703	Singapore .....	112	112	Nov. 15	7,707	7,707	7,707	7,707	7,707

## UNITED STATES RAILWAYS.

## FOREIGN AND COLONIAL RAILWAYS.

Railway.	Mileage.		Latest Earnings Reported.		No. of Passengers.	Aggregate to Date.		Remarks.	Mileage.		Period.	Latest Earnings Reported.		No. of Passengers.	Aggregate to Date.	
	1911.	1912.	1911.	1912.		1911.	1912.					1911.	1912.		1911.	1912.
London & C. D.	84	84	Nov. 15	12,500	12,500	12,500	12,500	London & N. W.	61	61	Nov. 15	1,410	1,410	1,410	1,410	1,410
London & N. W.	110	110	Nov. 15	1,410	1,410	1,410	1,410	London & W. R.	221	221	Nov. 15	800	800	800	800	800
London & W. R.	71	71	Nov. 15	800	800	800	800	London & S. W.	313	313	Nov. 15	800	800	800	800	800
London & S. W.	111	111	Nov. 15	1,930	1,930	1,930	1,930	London & E. R.	332	332	Nov. 15	2,067	2,067	2,067	2,067	2,067
London & E. R.	111	111	Nov. 15	1,930	1,930	1,930	1,930	London & N. E.	16	16	Nov. 15	227	227	227	227	227
London & N. E.	574	574	Nov. 15	1,119	1,119	1,119	1,119	London & S. E.	574	574	Nov. 15	1,119	1,119	1,119	1,119	1,119
London & S. E.	402	402	Nov. 15	718	718	718	718	London & W. S.	402	402	Nov. 15	718	718	718	718	718
London & W. S.	141	141	Nov. 15	718	718	718	718	London & N. S.	141	141	Nov. 15	718	718	718	718	718
London & N. S.	211	211	Nov. 15	630	630	630	630	London & W. S.	169	169	Nov. 15	7,707	7,707	7,707	7,707	7,707
London & W. S.	40	40	Nov. 15	1,734	1,734	1,734	1,734	London & N. S.	42	42	Nov. 15	2,417	2,417	2,417	2,417	2,417
London & N. S.	43	43	Nov. 15	2,417	2,417	2,417	2,417	London & W. S.	43	43	Nov. 15	2,417	2,417	2,417	2,417	2,417
London & W. S.	60	60	Nov. 15	1,711	1,711	1,711	1,711	London & N. S.	60	60	Nov. 15	1,711	1,711	1,711	1,711	1,711
London & N. S.	40	40	Nov. 15	1,711	1,711	1,711	1,711	London & W. S.	40	40	Nov. 15	1,711	1,711	1,711	1,711	1,711
London & W. S.	303	303	Nov. 15	2,703	2,703	2,703	2,703	London & N. S.	303	303	Nov. 15	2,703	2,703	2,703	2,703	2,703
London & N. S.	31	31	Nov. 15	2,703	2,703	2,703	2,703	London & W. S.	31	31	Nov. 15	2,703	2,703	2,703	2,703	2,703
London & W. S.	08	08	Nov. 15	2,703	2,703	2,703	2,703	London & N. S.	08	08	Nov. 15	2,703	2,703	2,703	2,703	2,703

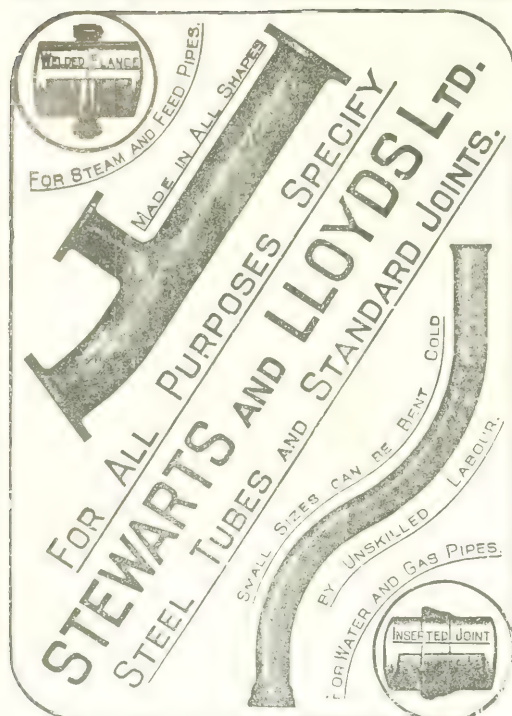
## WORKING STATEMENTS AS LAST REPORTED

Railway.	Mileage.		Latest Earnings Reported.		No. of Passengers.	Aggregate to Date.		Remarks.	Mileage.		Period.	Latest Earnings Reported.		No. of Passengers.	Aggregate to Date.	
	1911.	1912.	1911.	1912.		1911.	1912.					1911.	1912.		1911.	1912.
London & C. D.	84	84	Nov. 15	12,500	12,500	12,500	12,500	London & N. W.	61	61	Nov. 15	1,410	1,410	1,410	1,410	1,410
London & N. W.	110	110	Nov. 15	1,410	1,410	1,410	1,410	London & W. R.	221	221	Nov. 15	800	800	800	800	800
London & W. R.	71	71	Nov. 15	800	800	800	800	London & S. W.	313	313	Nov. 15	800	800	800	800	800
London & S. W.	111	111	Nov. 15	1,930	1,930	1,930	1,930	London & E. R.	332	332	Nov. 15	2,067	2,067	2,067	2,067	2,067
London & E. R.	111	111	Nov. 15	1,930	1,930	1,930	1,930	London & N. E.	16	16	Nov. 15	227	227	227	227	227
London & N. E.	574	574	Nov. 15	1,119	1,119	1,119	1,119	London & S. E.	574	574	Nov. 15	1,119	1,119	1,119	1,119	1,119
London & S. E.	402	402	Nov. 15	718	718	718	718	London & W. S.	402	402	Nov. 15	718	718	718	718	718
London & W. S.	141	141	Nov. 15	718	718	718	718	London & N. S.	141	141	Nov. 15	718	718	718	718	718
London & N. S.	211	211	Nov. 15	630	630	630	630	London & W. S.	169	169	Nov. 15	7,707	7,707	7,707	7,707	7,707
London & W. S.	40	40	Nov. 15	1,734	1,734	1,734	1,734	London & N. S.	42	42	Nov. 15	2,417	2,417	2,417	2,417	2,417
London & N. S.	43	43	Nov. 15	2,417	2,417	2,417	2,417	London & W. S.	43	43	Nov. 15	2,417	2,417	2,417	2,417	2,417
London & W. S.	60	60	Nov. 15	1,711	1,711	1,711	1,711	London & N. S.	60	60	Nov. 15	1,711	1,711	1,711	1,711	1,711
London & N. S.	40	40	Nov. 15	1,711	1,711	1,711	1,711	London & W. S.	40	40	Nov. 15	1,711	1,711	1,711	1,711	1,711
London & W. S.	303	303	Nov. 15	2,703	2,703	2,703	2,703	London & N. S.	303	303	Nov. 15	2,703	2,703	2,703	2,703	2,703
London & N. S.	31	31	Nov. 15	2,703	2,703	2,703	2,703	London & W. S.	31	31	Nov. 15	2,703	2,703	2,703	2,703	2,703
London & W. S.	08	08	Nov. 15	2,703	2,703	2,703	2,703	London & N. S.	08	08	Nov. 15	2,703	2,703	2,703	2,703	2,703

For further particulars see page 514.

\* Including North West Atlantic.





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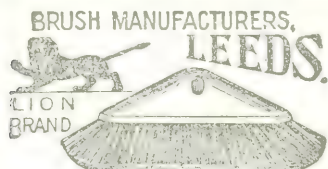
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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, NOVEMBER 26, 1911.

No. 22.

## PRINCIPAL CONTENTS.

Canadian Northern Railway Com-

## THE NORTH EASTERN RAILWAY AND ITS MEN.

A recent statement has been made in the last issue of this journal, in which it was stated that the North Eastern Railway Company and its men. It is true, as will be noted from particulars which we give in another column, that progress has been made towards a settlement, but to assume that the matter is closed would be rather misleading. The position is an interesting one, as are all labour affairs at this time. The North Eastern Company, it will be remembered, struck out a line for itself many years ago by granting full "recognition" to the trade unions at a time when other companies regarded such a policy with a good deal of suspicion. That the suspicions were, to a large extent, justified has been shown by the experience of the North Eastern Railway Company itself. So far from "recognition" having smoothed out its labour troubles, it seems to have had more of these troubles than other companies who have not conceded "recognition." As a consequence of its policy this company has always been a law to itself in these matters, and, consequently, was not included in the wider Conciliation Board scheme set up by Mr. Lloyd George in 1907. It has, however, had its own Conciliation Board arrangements, which come to a conclusion this year, a year ahead of other companies comprised in the scheme of 1907. It will have been noted that the National Union of Railwaymen has recommended the Conciliation Boards in the case of other companies to give the stipulated year's notice to terminate on December 1, and in practically every case this has been arranged. Another recommendation of the same trade union was that the North Eastern men should come to some arrangement with the company limited to a year, so that all the Boards should be brought into line. Its object in doing this is evident, but whether its recommendation will be accepted seems for the present to be an open question. It is gratifying to note, however, that the Central Conciliation Board and the North Eastern Railway, which have been negotiating for some time, have come to an important understanding which may be expected to lead to a final settlement. The concessions made on behalf of the company include a nine hours' day for engine-drivers, firemen, and goods and mineral guards, and one shilling a week additional for engine-drivers and firemen. It is stated, on what we believe to be good authority, that the men's delegates have accepted these terms for a period of three years, and to that extent they have varied instructions given to them by the Executive Committee of the National Union of Railwaymen. The Eastern railwaymen would be loath to repudiate the concessions offered by attempting to restrict the new scheme to a period of one year. In view, it is obvious that a three years' arrangement is a vital necessity, and its promises of further improvement in the conditions must necessarily be contingent upon the acceptance of that period. The reduction in hours and

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it of the subject to be reopened at yearly intervals, however much such a step may happen to fit in with the propaganda of the National Union of Railwaymen. A well-informed correspondent in York states that the feeling among the responsible members of the Conciliation Board is that the terms they have secured from the company will be acceptable to the general body of the men, and it is also stated that the arrangement arrived at is the result of a good many sittings and that the opinion was expressed that the company had treated them very well. This, of course,

there are always firebrands ready to stir up difficulties, and even in this case there is admitted to be some risk that when the offer comes up for confirmation of the arrangement. In a position of this sort, it is desirable to go to extremes, should make their voices heard, and then, we imagine, no trouble will arise. It is only fair to say that the recent relations between the North Eastern Company and its men appear to have undergone considerable improvement; indeed, the strike at Newcastle last year appears to have cleared the air, because at that time the strikers, who went out without the authority of their Union, were not only fined by the company, but deprived of strike pay, and what is perhaps more important, the loyal men were handsomely rewarded. This is as it should be, and the mere fact that during the past year the North Eastern Company has made advances of the North Eastern Company have been made and received will doubtless decide to a considerable extent

### RAILWAY BILLS FOR NEXT SESSION.

The summaries of the Parliamentary notices of railway Bills to be promoted in next session, which are published in our last and present issues, give in brief form an idea of the number of proposals which will come before Parliament. The total number of schemes foreshadowed is 33.

thus considerable activity on the part of railway companies in bringing forward fresh legislative proposals.

is nothing that can be called sensational. Several of the great railway companies propose to make short lines in various parts of the country, many of them connecting

land. There is the usual crop of applications for extensions

connected with capital arrangements. Three or four

Fishguard harbour, which was thrown out on a side issue

the railways running out of London. The project for con

atlantic port is again brought forward. Then we have the

pressed to authorise this electric line, which was to be con

structed in tunnel under the river, but the powers were

the carrying out of the electrification of the London, Tilbury and Southend line, we dealt last week with the possibilities in this direction. The scheme of the Great Western Railway is very elaborate, judging from the length of the notice which has been given, but the new lines to be constructed in various parts of the country, though somewhat numerous,

is being made to settle by Act a long-standing dispute between the Cardiff Railway Company and shipowners as to tonnage rates by providing for the payment of a fixed sum per annum as composition. The only scheme of importance in connection with the London underground electric railways is a Bill promised by the Metropolitan and Great Northern Railway Companies, which seeks to constitute a joint committee to take over the Great Northern and City Railway, which was recently acquired by the Metropolitan Company. This joint committee is to construct the authorised extension of the Great Northern and City line to the Bank of England, and also lines, if they are authorised, forming a junction between the Great Northern and City line at Moorgate Street and the Inner Circle Railway near Aldgate, together with a further extension of the Great Northern and City from the Bank to a junction with the Waterloo and City Railway terminus. It is also sought to make a connecting line from the Great Northern and City Railway to the Great Northern line at Finsbury Park. The Metropolitan Company will work the Great Northern and City and the proposed extension, and the idea is to revert to the old scheme under which the Great Northern suburban trains will be able to run over the Great Northern and City line right into the heart of the City of London. The tunnels were originally made of sufficient size to allow this to be done. The Waterloo and City carriages on the other hand will be able to run over the Great Northern and City line. This is a revival and improvement of a previous scheme. Legislative authority is sought for transferring to the North British Railway Company the undertaking of the Invergarry and Fort Augustus Railway Company, which it will be remembered, lay derelict for some time. A peculiarity about a Bill promoted by the North Eastern Railway Company is that they seek power to work trackless trolley vehicles from Newcastle to Gateshead along the roadway on their railway. This proposal is the outcome of a failure on the part of the railway company to obtain what they considered sufficient tolls from the owners of horse omnibuses which at present convey passengers across the bridge. The session does not promise to be a particularly exciting one in the region of private railway Bills, but all the same a good deal of quiet and useful work may be done.

### THE CONCILIATION SCHEME.

In our issue of the 8th instant we announced that the National Union of Railwaymen had decided to advise the members of the various conciliation boards to give notice to terminate the scheme. At the same time we were able to say that the National Union would endeavour to induce the companies to adopt a single composite board for each railway, as distinct from sectional or grade boards. This is not a new departure, and on whatever grounds it may be advocated the real reasons are apparent. The National Union now caters for all grades of railwaymen: its ambition is ultimately to absorb the two other trade unions of railwaymen, the Associated Society of Locomotive Firemen and the Railway Clerks' Association. Neither of these bodies is willing to be absorbed. In the case of the former its members have been ballotted on several occasions and have made it quite clear that no matter how closely they may co-operate with the National Union, they are not prepared to amalgamate and thus lose their identity. The sound sense of this is apparent. These grades are among the best paid in the



But if the National Union could force the railway companies to adopt such a composite board they would have to amalgamate. This is one of the many points that will require to be borne in mind if and when negotiations are taken in hand by the railways and the men's representatives to revise the conciliation scheme. The rights of minorities of this character must be protected. For this reason we may appropriately briefly review the position.

The 1907 scheme for conciliation was comprised in three boards to which applications were referred when sectional boards failed to agree; (3) arbitration. After the strike of 1911 and when the scheme was the subject of investigation by a Royal Commission, the arbitration stage was generally condemned and was superseded by providing that each company's boards should have an independent chairman who should be called in as mediator, but, if unsuccessful in that rôle, he should himself determine the question at issue. As to the merits of sectional as opposed to composite boards differences of opinion were expressed by the men's representatives. The Amalgamated Society of Railway Servants (now the National Union) pressed for one composite board for each railway; the Associated Society advocated sectional boards. In the result the Commissioners decided upon the sectional principle as being representative and capable of fulfilling the conditions and of carrying out the principles of the

abolished."

So far, results have demonstrated the wisdom of this decision; but circumstances may occur in which there may be danger of a reversal of this policy. The Associated Society of Locomotive Engineers and Firemen can influence only one board on each railway; the National Union's influence may extend to several. This will probably lead to the former being out-voted when, in accordance with clause 53, "the majority of the aggregate representatives of employees on all the conciliation boards" for a particular system decide as to the course to be taken in regard to revising or determining the scheme. As a matter of fact the Associated Society appear to recognise this, for we understand that the views of its executive committee have been already communicated to the railways. These are that they are prepared to continue the conciliation scheme in being, subject to certain modifications, viz.: That a fuller recognition should be given to the representatives of the trade unions; that all matters affecting the contractual relations between the companies and their employees should come within the scope of the scheme; that a conciliation board should be established on all railways for engine-drivers, firemen, locomotive cleaners and motormen, distinct and apart from all other grades; and that sectional boards should have power to determine the scheme by giving twelve months' notice. We do not regard these conditions as acceptable, but they might well form the subject of negotiations, and we hope that it may not pass the wit of those concerned to discover some means of insuring adequate consideration of these minority aspirations.

Proposed Locomotive Railway Board

## MONEY AND STOCK MARKETS.

Mines .....	Dec. 8	General .. ..	Dec. 10
General .....	Dec. 27	General .....	Dec. 10
General .....			

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	Last Year.	
Bank's Coin and Bullion		
Total Reserve .....	5,197,100.	5,084,100.
Notes in Circulation .....		
Open Market Discount		
Bankers' Clearing House		
Silver bars, per oz. (spot)		
Consols (account)		
French 3 per cent. (acc.)		
Paris Cheque exchange		
Calcutta transfers .....		
Hong Kong transfers .....		
Shanghai transfers .....		
	Feb. 10, 1910	1910
	Mar. 17, 1910	1910
	Sep. 29, 1910	1910
	Nov. 30, 1910	1910
	Jan. 25, 1911	1911

The publication of a satisfactory Bank Return this week was of sensible benefit to the quotation of prices on the Stock Exchange. Only £55,000 was taken for export, while arrivals from South America and imports from the mines amounted to £470,000. Besides this, the internal demand for coin diminished to the extent of £187,000, and the active note circulation contracted by a trilling sum of £13,000. Consequently the Reserve gained £580,000, which brings it to a level only half-a-million

last year. Private Deposits, which had been permitted to fall to a figure that experience has shown to be much too

now only about a million sterling below the figures of a year ago. This readjustment was effected partially by the release of £862,000 from Public Deposits, but chiefly by the increase of Other Securities to the extent of £1,000,000. Government Securities were reduced at the same time by £600,000. As the result of all changes, the ratio of Reserve to the liabilities of the Bank is half a point less at 54.4 per cent.

issue those irritating the upward movement appeared to have been intimidated by the approach of the settlement and the apathy of the public. When, however, the progress of the settlement disclosed the public apathy not only towards making purchases, but also to making sales, the operators took heart again and raised the level of quotations in the Home Rail department very appreciably without adding much to their commitments. Then efforts

to be established by the stockholder, that has prevailed in other markets, especially in that for foreign securities and international bonds. It bodes ill, however, for the permanent success of the movement that no sooner was a sensible advance established than the stock markets became full of murmurs concerning new issues being underwritten or about to be underwritten. British Portland Cement 5 per cent. debentures, Argentine Navigation 6 per cent. debentures, San Paulo Treasury bills, Chinese Treasury bills, a loan to the municipality of Prague and many more were among them, including a host of rubber companies, disappointed in their hopes of obtaining the wherewithal to complete their cultivations by the fall in price of the raw material. There are few Governments not in urgent need of a loan, and some that must have one at any cost, so until this competition has terminated, the task of those who endeavour to raise the quotation for established stocks must remain doubtful.

After established stocks had returned to the level of last Saturday, the decline in Home Rails was stayed and in most respects a harder tone was discernible. On Monday, a general and all-round rise was inaugurated. As far as domestic affairs were concerned, the reasonable tone of recent speeches by the Labour leaders of this country assisted the return of confidence. The offer of the United States of Havana to acquire the ordinary shares of the Cuban Central Railway Company gave renewed interest to the section of foreign rails. International stocks derived help from developments in connection with the great French loan, which seemed to portend a restriction upon the amount to be borrowed. Home Rails, in particular, were discussed from the point of view of possible savings in working expenditure. The Government was considered to be in a position to do so by reducing the charges for repairs and renewals, and others by reductions in the cost of fuel next year. The next day the general carry-over took place at rates much the same as before, but the making-up prices of the twelve most active Home Rails was  $\frac{3}{4}$  per cent. higher on the account, which compares with a fall of  $\frac{3}{4}$  per cent. of last time. This gave quite another aspect to the state of affairs. Wednesday and the day following was a critical time for Home Rails. Prices began to fall on the afternoon of the first and continued during the morning of the second, but on both days a balance of gains was recorded, and a fit of profit-taking that induced the declines was safely resisted. A fall in the Austro-Hungarian Bank Rate, accompanied by rises in Hungarian Renties and Turkish Unified, helped to strengthen the markets.

On Friday, as far as Home Rails were concerned, the *status quo* was fairly well maintained, but the tone was dull, and, for the day, the losses rather outweighed the gains. The possibility of labour difficulties among the Welsh coalfield and the Great Western was a depressing factor, and the speech of Mr. Asquith was not of a character calculated to dispel depression in any section of the market. The *London Times* editorial "The way over for these" was in progress, and the rates charged ruled between 100 and 110, and the *London Standard* and *London Morning Post* were in support of the *London Times*. There was some mitigation in the pressure for money and the *London Standard* is inclined to be more favourable to the *London Times* and *London Morning Post* than the *London Standard* and *London Morning Post* seem more business.

Credit Western	—	—	Fall.	
Hull and Barnsley	1 $\frac{1}{2}$	—	Erie Common	—
Lancashire & Yorkshire	1	—	Do. 1st Preference	—
London, Br. & S. Coast	1	—	Do. 2nd Preference	—
Do. Deferred	2	—	Illinois Central	—
London Chert. & Devon	2	—	Louisville & Nashville	—
London & N. Western	3	—	Missouri Kans. & Texas	—
London & S. Western	2	—	New York Central	—
Do. Def. Com.	2	—	N.Y., Ont. & Western	—
Metropolitan	1 $\frac{1}{2}$	—	Norfolk & Western	—
Metropolitan District	1 $\frac{1}{2}$	—	Do. Preferred	—
Midland Def. Ord.	1 $\frac{1}{2}$	—	Pennsylvania	—
North British Pref. Ord.	1	—	Reading Common	—
Do. Def. Ord.	1 $\frac{1}{2}$	—	Southern Pacific Com.	2d
North Eastern Cons.	1 $\frac{1}{2}$	—	Southern Common	—
North Staffordshire	—	—	Do. Preferred	—
South Eastern	2	—	Union Pacific	—
Do. Deferred	2 $\frac{1}{2}$	—	Do. Preferred	—
East Valley	—	—	U.S. Steel Corp. Com.	—
			Do. 7 p.c. Cum. Pref.	—
Underground Electric	—	—	<i>Low &amp; Reliance</i>	—
Do. 4 $\frac{1}{2}$ p.c. Bonds	—	—	Antofagasta Def. Ord.	—
Do. 6 p.c. Bonds	—	—	Argentine Gt. Western	2
			Buenos Ayres & Pacific	—
<i>Central Argentine</i>	—	—	Buenos Ayres Gt. Stm.	—
Caribbean P.R.	1	X $\frac{1}{2}$	Buenos Ayres Western	—
Central Finance of Canada	—	—	Central Argentine	—
Do. 4 p.c. Guaranteed	—	—	Do. Deferred	—
Do. 1st Preference	—	—	Central Railway of Mex.	—
Do. 2nd Preference	—	—	Cordoba Cent. Ord.	X $\frac{1}{2}$
Do. 3rd Preference	1	—	Costa Rica	2 $\frac{1}{2}$
<i>Eastern Railway</i>	—	—	Cuban Central	—
Atchison Common	1 $\frac{1}{2}$	—	Empodina	—
Baltimore and Ohio	—	—	Mexican Ordinary	—
Chesapeake and Ohio	1	—	Do. 1st Pref., 8 p.c.	1
Chicago Gt. Western	—	1 $\frac{1}{2}$	Do. 2nd Pref., 6 p.c.	1
Chicago Mil. & S. Paul	—	—	Nitrate Ordinary	—
Denver & Rio Grande	—	—	Ottoman (Smyrna to Aidin)	—
Do. Preferred	—	—	Un. of Havana Ord.	—

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways of the United Kingdom for the week ended November 23 gives a total of £2,202,056, which was earned on 21,934 miles, being at the rate of £100 7s. 10d. per mile of line open. For the corresponding week of 1912 the receipts of the same lines amounted to £2,170,934, with 21,857 miles open, or £99 6s. 5d. per mile. Thus there was an increase of £31,122 in the receipts, an increase of 77 in the mileage, and an increase of £1 1s. 5d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £20,744 (or £1 5s. per mile) in the passenger receipts and an increase of £2,908 (or a decrease of 1s. 8d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the forty-seven weeks in the passenger receipts has been £2,964,720, while the aggregate increase in the goods traffic was £4,009,257. The aggregate receipts of the fifty railways for forty-seven weeks (December 29 to November 23) amounted to £109,796,538, in comparison with £102,640,442 last year, an increase of £7,156,096, not including receipts from certain canals, etc.

**Parting at a Great Western Train.** A Great Western train from Kansas City, with a coupling of six passenger coaches, a Pullman sleeping car, and a continuous baggage car, stopped at the depot here this morning. The train was headed by a splendid white steam locomotive, with a tall smokestack. In the engine was a big engineer, with a white beard and a friendly smile. He was wearing a blue uniform with a red stripe down the sleeve. The train was crowded with passengers, and the baggage car was filled with suitcases and trunks. The train was waiting for the morning train to Kansas City, and the passengers were getting ready to board. The train was a sight to see, and the passengers were all looking at it with interest. The train was a great sight, and the passengers were all looking at it with interest.

The Mexican Railway Company, Limited, has been authorized to construct a railway from Mexico City to the Gulf of Mexico, and to operate the same. The company is authorized to issue bonds to the amount of \$1,000,000, and to issue stock to the amount of \$1,000,000. The company is authorized to lease the railway to the Government of Mexico, and to operate the same. The company is authorized to issue bonds to the amount of \$1,000,000, and to issue stock to the amount of \$1,000,000. The company is authorized to lease the railway to the Government of Mexico, and to operate the same.

# REPORT ON THE AISGILL COLLISION.

REPORT BY MAJOR PRINGLE.

ON THE 2nd SEPTEMBER 1913, at 2.40 a.m., the following collision occurred on the M. & G. Railway, near Aisgill, between two south-bound express passenger trains. The first comprised vehicles from Stranraer and Glasgow; the second from Aberdeen, Inverness and Edinburgh. They were due to leave Carlisle at 1.35 a.m. and 1.40 a.m. respectively. The second train overtook the first, which was at a standstill on the up road, and a collision ensued, 14 persons losing their lives in the collision, and their bodies being wholly or largely destroyed by fire. Two more passengers subsequently died from the effects. Thirty-eight others suffered more or less serious injuries, or have complained of the effects of shock or exposure. All the fatalities occurred to passengers travelling in the last passenger vehicle of the leading express, and those at all seriously injured were occupants either of this coach, or of the front vehicle of the second express. The first (Glasgow) express was drawn by engine No. 993 of the 4th or most powerful class—4-4-0 type, with 6-wheeled tender—and comprised ten vehicles, three of which were burnt. The second (Edinburgh) express was drawn by engine No. 446 (second class) of similar type, with 6-wheeled tender, and had six vehicles in rear. The total number of tools, etc., carried by the two trains was: Fire extinguishers, 15; fire buckets, 24; safety hand lamps, 12; hand saws, 12; hatchets and axes, 12; hammers, 12; pinch bars (6 feet 8 inches and 3 feet), 12; chisels, 6; drifts, 6; tin baulfers, for extinguishing gas jets, 12. In addition, each engine carried 1 crowbar, 1 hand and 1 sledge hammer, 2 hand lamps, and other appliances.

is now filled with oil before a journey is commenced, and the lubricant is syphoned, drop by drop, from wicks on to the bearings. Provided that the receptacle is large enough to supply all the oil likely to be syphoned, there is no actual necessity for a driver to renew the supply during the journey. But drivers of long service have generally acquired the habit of going round their engines, and prefer to continue the practice, even though it may not actually be necessary. It affords the men an opportunity also of observing the movement of the engine, which cannot be seen from the cab. The attitude of the Board of Trade has been that the practice is inadvisable on account of this personal risk. A notice has been issued by the Company warning men that accidents have occurred, and cautioning them against leaving the footplate unnecessarily when the engine is in motion. The enginemmen were aware of this notice, and state that they did not consider the practice to be dangerous. If a driver chooses to go round the framing, there should be a distinct obligation upon him, in my opinion, to arrange with his mate that the latter shall be at liberty from his own work to devote himself to the more important work of observation. On this particular occasion it appears that Caudle was away from the "front" longer than he had calculated to be, and consequently passed the distant signal before he had returned to his proper position. His action was therefore ill-judged, and possibly the reason why the distant signal was not properly observed or at all events obeyed. But there was no necessity for Caudle to go round at the time he did, and he did not take the precaution to see that the fireman, who was strange to him, was disengaged, nor did he give him any instructions.

Discussing general rules 40 (a) and 217 (a) Major Pringle refers to the first rule, which defines the use of the home signal, when the



Aisgill Disaster—Diagram showing Position of Trains after the Collision.

The "Conclusion" to the report occupies sixteen foolscap pages, and we append some extracts. Major Pringle mentions that Caudle, the driver of the second train, had just time to bring the continuous brake up to the wheels before the engine struck the train in front. Caudle estimates his speed when he applied this brake as possibly 30 miles an hour, and thinks the brake acted wonderfully. From an experiment made by the company with an engine similar in type to No. 446, and a train composed of six bogie vehicles (four of which formed part of the second express) it was found that the time taken from the application of the driver's brake valve until the brake blocks were applied on the rear vehicle was 1.75 seconds. At 30 miles an hour a train will travel about 20 yards in this time.

The report first deals with "secondary matters—secondary so far at least that they do not affect general principles; though in a survey of such matters there may be found grounds for regarding in a somewhat different light a breach of the general rules, and regulations for the safe conduct of traffic." "These matters," Major Pringle says, "are: (a) The non-provision of a pilot, or assisting engine, to the first express; (b) the quality of coal used on the engines, and (c) the practice of oiling whilst trains are in motion. The refusal of a pilot I do not regard as anything more than a circumstance—an unfortunate circumstance no doubt, but one which the existing regulations, had they been obeyed, would have safeguarded. Enginemmen on all railways occasionally experience difficulty on account of the small size of their coal, and even with the best intentions on the part of the responsible officers I do not think this can always be avoided. In any case, the size of the coal cannot, I think, be regarded in any other light than one of a somewhat extraordinary sequence of incidents, which should not in itself have led to danger. Before the recent improvements in lubrication

approaching train until the train is close to the home signal, and has been brought quite, or nearly, to a stand at it." The train was too far away for signalman Sutherland to be absolutely certain that it was prepared to stop at the home signal. On other occasions fault has been found with the manner in which signalmen carry out this rule; the most recent illustration is the accident at Yeovil. Traffic officers do not, I think, sufficiently insist upon its proper observance. Sutherland's action in throwing the home signal to danger at a later moment, when he saw the train was approaching at a high speed, was quite correct. Having regard to Caudle's own statement, it does not appear that the lowering of the home signal had any influence upon the passage of the second express, and the incident therefore has no bearing upon this particular accident. As regards Rule 217 (a) under which the rear guard must immediately go back to protect his train, Major Pringle cannot free that employee from all blame, and he also blames the front guard and the driver of the first train for endeavouring to minimise the probable length of the delay.

Referring to the enginemmen on the second express Major Pringle says: "Allowances may be made for Caudle's non-observance of the distant signal as possibly due to misjudgement on his part of the time required for going round the engine. Sympathy will be felt in his anxiety regarding the low state of the water in the boiler and the difficulty with the injector. But I can see no excuse after he had overcome these difficulties, for his carelessness when he recognised that he had passed all these signals without noticing their position, and his inattention to his duty of observation.

I find, therefore, after giving the fullest consideration to all the circumstances, and making every allowance possible for the difficulties on the journey, that the main responsibility for this deplorable accident rests upon driver Caudle.



the accident was due to the forgetfulness of a signalman, and the general circumstances proved the inadequacy of Rule 55 as a safeguard against any such lapse of mindfulness. In the present case the collision was caused by the failure of engineers to obey the instructions given by a signalman to stop, as indicated by the outdoor signals, and Rule 217 (a) proved an ineffective additional safeguard, to prevent passing signals at danger, the principle of cab signalling, in conjunction with audible signalling, has, so far as distant signals are concerned, been adopted by the Great Western Railway at a number of important centres. The object was, primarily, to meet the difficulties in connection with fog signalling at distant signals. But it cannot be said that the method has as yet been proved to be efficient, to the extent of meeting adequately the very complicated requirements of traffic on English railways. It will have to be experimented with much more thoroughly, and subjected to further prolonged tests under ordinary working conditions, before it will be possible to recommend it as a panacea for all difficulties. One of the objections which would have to be met is the risk of the non-

when train stops are worked mechanically at considerable distances remains to be determined. Where electrical or other power is available, the maintenance of gauge should not be a difficult matter. It is certainly a device which railway companies should unite in experimenting with more fully, and should adopt, if found to be reliable and practicable at high speeds. It would certainly very adequately meet the demand for additional safety. In the first instance, "stops" would be necessary, I think, only at signal posts which define the boundary of block sections.

In the meantime, and pending the acceptance of some satisfactory automatic control, I think it would be possible to introduce at all signal-boxes, at all events on main line and express routes, an arrangement whereby one or more detonators can be placed upon the rail by the operation of a lever in the signal-box. This arrangement is now largely in use upon English railways, especially at busy centres, mainly as an interim method of fog-signalling—in the event of the sudden appearance of fog—until the arrival upon the scene of fog-men.

For the protection of a train standing in section I recommend that each guard's van should be furnished with coloured flare lights, such as are in use upon American railways. Moreover, in case of accident, the flare lights would be useful to provide illumination for salvage purposes. The use of flare lights has been recommended in reports upon other accidents by the Inspecting Officers of the Board of Trade. The question of providing a warning suitable for use in daylight is more difficult. The use of a flare light would not obviate the necessity for Rule 217 (a). But it would limit the use of the rule, at all events at night time, to cases where it was known that the stoppage would be of considerable duration.

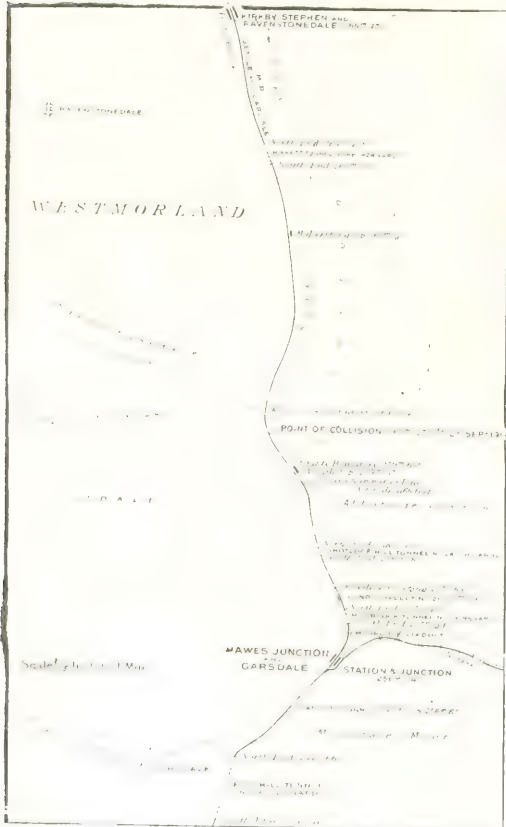
RECOMMENDATIONS FOR MITIGATING THE RESULTS OF ACCIDENTS.  
No need of telescopes for coaching stock, place as a result of the collision.

The two wrecked vehicles of the first express had timber underframes with steel channels outside the sole bars, and were built in the year 1900. The practice of the company during the past ten years has been to construct all underframes of coaching stock of steel. It is probable that, as the speed of the second express at the moment of collision does not appear to have been greater than 25 miles an hour, coach No. 227 would not have been so much crushed had the underframes of the last two vehicles been constructed of steel, and possibly no fatalities would have occurred. On the other hand, vehicles with steel underframes, because of their greater resistance, are more liable to telescope. Shock absorbing buffers, with large faces, steel castings and double cases, such as are described in the evidence of Mr. Bain (carriage and wagon superintendent) ought to reduce the liability to telescope. The conclusion may therefore, I think, be drawn that, at all events for express services, the old type of coach, with wooden underframes, should be withdrawn as speedily as possible.

A feature of this accident, and indeed of most collisions, was the difficulty in obtaining entrance to the two wrecked coaches. It is the old story of doors jamming. This point is one which calls for more attention in designing passenger stock. It has been suggested to me by one correspondent that the jambs of doors and the doors themselves, instead of being cut square, should be cut at an angle of 45 degrees. Another proposes the use of an instrument, like a screw vice, with a clamp at one end to bear against the inside of a window, and a screw at the other to act upon the door frame. I suggested in my report upon the accident at Hawes Junction that sockets should be provided on the outside, by which with the aid of a crowbar doors which had jammed could be more easily prised open. Experiments might be made in these directions. With regard to windows, it is the practice of the company to fix bars across them on the corridor side of passenger stock. I understand that the bars are considered necessary to protect passengers whilst traversing the corridors from being thrown against the windows. If so necessary, they should be made easily removable, by hinging them, or otherwise, at one end. The recent practice of some companies of building long corridor stock, with two doors only on each side, or using thick plate glass, and of constructing windows that will only open about eight inches at the top, is not in the best interests of safety. Nor, if I am to judge from correspondence, do the general public regard with favour such arrangements.

The use of fire-proof material in the construction of coaching stock has not been the subject of the same attention as has been the subject of the railway companies generally. There is a very deplorable case of the following upon accident, in consequence of the necessity of obtaining so far as possible material that is non-inflammable. The contention that timber, especially if not painted and varnished, is inflammable is a better one than is often made. He instances the old timber coaches in evidence, constructed by Birtles & Co., Birmingham.

These have proved immune from fire, but the fact that they have been immune is not, in itself, a recommendation for their use. It will be advisable to experiment with other materials, and to see whether they can be made to stand up to the conditions of service. The fact that they have been immune from fire is not, in itself, a recommendation for their use. The fact that they have been immune from fire is not, in itself, a recommendation for their use. The fact that they have been immune from fire is not, in itself, a recommendation for their use.



Accident Disaster. Diagram of Line.

The diagram shows the railway line running vertically, with various stations and junctions marked. Key locations include Hawes Junction, Carsdale, and Station Junction. A 'POINT OF COLLISION' is marked on the line. The map also shows the surrounding landscape, including the River Ure and the town of Hawes. A scale bar indicates a distance of 1 mile. The map is titled 'WESTMORLAND' and 'HAWES JUNCTION'.

expressed with regard to those carried on these trains is that they ladders fitted with hooks at one end, which could be fastened to the footboard or underframing of coaches, would place men in a more commanding position for forcing open carriages doors, etc. I think also that small screw jacks, such as can be used in a confined space, might prove particularly useful in raising baulks of timbers sufficiently to extricate passengers. A box of surgical dressings should be carried with the appliances.

On this point of origin it is necessary to consider the bearing which the evidence given by Mr. Bain has upon the question. The five gas cylinders carried under the floor of the two wrecked vehicles were subjected to experiment, after they had been removed from the wreck. The experiments go far towards proving that, if the perforations and apertures described by Mr. Bain were all the immediate result of the collision, in less than three minutes after engine No. 440 had finally come to rest in the wreckage all the gas remaining in the cylinders must have escaped. All these cylinders must have been knocked away from their fastenings and the pipe connections severed in the actual collision. The position of the engine after the collision and of three out of the four bogies allows no other conclusion to be drawn. But it does not follow that the severance of the pipes between the cylinders and the reducing chambers must have all occurred at that moment. Further breakages of the piping may have resulted whilst the debris was being removed by the breakdown gang. If this were the case, gas might have been issuing at low pressure for a much longer period than

for electricity, were re-lighting old gas-lighted stock with electrical all stock was lighted by electricity. I attach two tables giving statistics regarding the number and relative percentages of gas the United Kingdom on the 31st December, 1910, and the 31st August, 1911. These include restaurant and sleeping cars. It will be seen that the number of gas-lighted vehicles has decreased from 41,474 to 10,530; whilst those electrically lighted have increased from 10,808 to 11,099. The relative percentages are from steadily replaced by electricity on Indian railways. This is illustrated by the following comparative statement:—

It will, I think, be admitted that for express services, such as trains *de luxe*, the tendency is to light the stock electrically. Experience from the past shows that what is considered to-day the most desirable illuminant for high-class express trains will be demanded in the future as the standard. The above-mentioned correspondence referred also to the desirability of providing one set at least of salvage tools on all passenger trains. The replies on this point showed that some of the larger companies provided tools in the brake vans of some express trains, and that others considered the provision unnecessary. I have dealt specially with the manner in which the Midland Railway Company have carried out the recommendations in this respect.

Statement of Accidents to Trains in which the wreckage caught fire, showing how the passenger vehicles were illuminated in years 1898-1913 inclusive.

		of accident.	were illuminated.
		Wellington.	
Jan. 17, 1906.	Great Western	Derailed through collision with a luggage barrow.	A portion of wrecked carriage, which overhung
		Collision	Electricity
	Lancs. and Yorks.	Collision	Electricity
April 8, 1912			Electricity
			Electricity
			Electricity
			Electricity
Sept.			Electricity
			Electricity
			Electricity
			Electricity

(Great Central Railway in January, 1906, and 21, the derailment of a passenger train, but in both cases precautions were taken to prevent it catching fire, which were successful.

three minutes. I conclude that the more serious outbreak of fire arose, not so much from the ignition of gas, which I think caused the first visible appearance of fire, but from the contents of the ashpan and the heat radiated from the engine, which was buried practically in the wreckage.

The case for gas as a standard illuminant is not bettered by the circumstances attending this accident. Gas escaped from the cylinders under two of the wrecked carriages, and ignited. In Appendix IV. will be found a statement of all the accidents inquired into by the Board of Trade during the past 15 years, in which the wreckage caught fire. There have been altogether 13 cases, including Ayrill. It will be noted that five have occurred since the accident at Hawes Junction. In February, 1911, the Board of Trade wrote to the companies severally on the subject of the illumination of railway carriages, pointing out that from the point of view of safety electricity was materially preferable to gas. The replies received showed that most of the large companies did not contemplate the adoption of electricity as the standard illuminant, but that attention was being given to the suggestions made in the report upon the Hawes Junction accident for minimising the risk of danger from the use of gas. In January, 1913, consequent upon Sir Arthur Yorke's report upon the Ditton Junction accident, the Board brought his recommendation, that electricity should be substituted for gas on all main line trains, to the notice of the companies, and asked what action they proposed to take in the matter. The replies showed some change of attitude in the desired direction. Five of the large companies stated that they did not propose to adopt electricity for new stock, except for particular classes such as restaurant and sleeping cars; five others stated that they had decided to use electricity in all or nearly all new stock for main line service; two had no decided policy; and two others, besides fitting all new stock

As additional safeguards, to meet the case of enginemen failing to observe and obey signals, and as a speedier method than that furnished by Rule 217 (a) of protecting trains standing in section,

(a) That all signal-boxes on main line or express routes be provided with means, either automatic, or such as can be readily employed by signalmen, for laying one or more detonators upon the rails in front of any approaching train when the section in advance of the signal-box is occupied.

(b) That all guards' vans upon main line or express routes be furnished with a sufficiency of coloured flare lights, which can be readily ignited on every occasion that a train is stopped in section. Experiment will show whether any type of flare light will be suitable as a warning by day as well as by night.

(c) Having regard to the risk which recent accidents have proved to exist in too lax an observation of Rule 10 (a), it is advisable that the words "is close to the home signal, and . . . quite, or nearly," be deleted, except where recommendation (i) has been adopted or on steep rising gradients in the case of heavy goods trains, and the necessary corrections made in other rules.

The adoption of the recommendation (b) above will necessitate some addition to, or alteration in, Rule 217 (a), which, as it stands at present, is not always practicable.

The notice regarding the practice of using an engine in motion should be supplemented by an instruction that enginemen, before leaving the footplate, must first assure themselves that the fireman is at liberty to observe signals during their absence from the "front."

I wish again strongly to urge upon railway companies the desirability of employing electricity as their standard illumination. It cannot be expected that all the gas-lighted vehicles can be replaced at once. The expense would be too considerable. But the policy

the use of electric lighting, and of replacing the old stock with the new high-pressure stock on main line and express services, is in consonance with the trend of general practice all over the world, and one which is not impracticable from the point of view of cost.

In conclusion I wish to refer to the action taken by the Midland Railway, subsequent to the accident at Hawes Junction, as set forth in Sir Guy Granet's statement. I have personal experience of the thorough manner in which they have dealt, and are dealing, with the two main points brought to light by that accident, namely, the introduction of safeguards to prevent mistakes by signalmen, and of devices to remind them of trains standing out of sight of, or at a distance from, their posts. They have also met very adequately the recommendations in that report, which may be described as of secondary importance, regarding tools and fire appliances, etc. It is true that, after full consideration, they have not accepted electric light as their standard illuminant upon trains, but, on the other hand, they have fully adopted the alternative procedure suggested to safeguard the use of gas. The design of the cylinders has been altered, the ends strengthened, they are better housed and protected, and an automatic valve has been devised to cut off the issue of gas under high pressure. These improvements have been applied to new coaching stock, 125 having been so equipped; and 62 old stock have been fitted with the new automatic valve and other improvements.

Among the appendices to the report are the following:—

#### Statistics regarding Illumination of Coaching Vehicles on 16 Railways in the United Kingdom

Name of Railway.	Number Cars Lighted by Gas.		Number Electrically Lighted.		Lighted otherwise.		Total Coaching Vehicles.	
	1899-1900.	1900-1901.	1899-1900.	1900-1901.	1899-1900.	31 Aug. 1913.	1899-1900.	1900-1901.
Great Central	1,142	1,058	4	4	—	103	1,146	1,062
Great Northern	1,077	1,429	—	—	—	—	1,077	1,429
Great Eastern	1,000	1,000	—	—	14	—	1,000	1,000
Great Southern and Western	1,000	1,000	—	—	—	44	1,000	1,000
London and North Western	400	400	2,450	2,087	4	—	2,850	2,487
London and South Western	1,000	1,000	1,583	1,583	—	—	2,583	2,583
Midland	1,000	1,000	—	—	—	—	1,000	1,000
North British	1,000	1,000	—	—	—	—	1,000	1,000
North Eastern	1,000	1,000	—	—	—	—	1,000	1,000
Scottish	1,000	1,000	—	—	—	—	1,000	1,000
South Eastern	1,000	1,000	—	—	—	—	1,000	1,000
South Western	1,000	1,000	—	—	—	—	1,000	1,000
Welsh	1,000	1,000	—	—	—	—	1,000	1,000
York and North Yorkshire	1,000	1,000	—	—	—	—	1,000	1,000
<b>Total</b>	<b>10,000</b>	<b>10,000</b>	<b>4,037</b>	<b>3,674</b>	<b>18</b>	<b>157</b>	<b>14,045</b>	<b>13,674</b>

#### PERCENTAGES.

Name of Railway.	Percentage of Coaching Vehicles Lighted by Gas.		Percentage of Coaching Vehicles Lighted by Electricity.		Percentage of Coaching Vehicles Lighted by Gas or Electricity.	
	1899-1900.	1900-1901.	1899-1900.	1900-1901.	1899-1900.	1900-1901.
Great Central	100	100	0	0	100	100
Great Northern	100	100	0	0	100	100
Great Eastern	100	100	0	0	100	100
Great Southern and Western	100	100	0	0	100	100
London and North Western	38	37	62	63	100	100
London and South Western	38	37	62	63	100	100
Midland	100	100	0	0	100	100
North British	100	100	0	0	100	100
North Eastern	100	100	0	0	100	100
Scottish	100	100	0	0	100	100
South Eastern	100	100	0	0	100	100
South Western	100	100	0	0	100	100
Welsh	100	100	0	0	100	100
York and North Yorkshire	100	100	0	0	100	100
<b>Total</b>	<b>38</b>	<b>37</b>	<b>62</b>	<b>63</b>	<b>100</b>	<b>100</b>

**Demerline Station Alterations.** Schedules have been issued for the alterations to be made at Demerline Station. The alterations will be completed by the end of the year, and will cost about £10,000.

**Superheated Locomotives for the North British Railway.** Ten new superheated locomotives have been ordered by Mr. J. B. Macdonald, M.P., for the North British Railway. The locomotives will be supplied by Messrs. G. & W. Porter, Glasgow. The first locomotive will be delivered to the railway in January, 1914. The locomotives will be of the 4-4-0 type, and will have a maximum speed of 60 m.p.h. The locomotives will be fitted with a superheater, and will have a maximum tractive effort of 25,000 lbs. The locomotives will be fitted with a vacuum brake, and will have a maximum weight of 100 tons.

#### RAILWAY BILLS FOR 1914.

In continuation of the abstracts of Parliamentary notices of railway Bills to be promoted in next session which we published last week, the following are summaries of the remaining schemes:—

##### DEPTON AND MERTHYR TYDIL JUNCTION RAILWAY.

To authorise the company to acquire lands in Monmouthshire, to remove existing restrictions on the company's running powers over the Bargod branch of the Rhymney Railway, and to revise the terms and conditions of such running powers, to alter the date for payment of interest on debenture stocks of the company, to raise additional capital, and to issue redeemable debenture stock. Solicitors—Beale and Co., 16, Great George Street, Westminster. Parliamentary agents—Rees and Freres, 5, Victoria Street, Westminster.

##### CARDIFF RAILWAY.

To extend the time for the purchase of lands and completion of works, to confer further powers on the company for the removal of wrecks or stranded vessels and obstructions in or near their docks, and to enable the company to recover any expenses incidental to such removal. Solicitors—Corbett Chambers and Harris, Cardiff. Parliamentary agents—

Grahames, Currey and Spens, 2, Millbank House, Westminster.

##### CARDIFF RAILWAY (COMPOUNDING OF TONNAGE RATES).

To amend the Bute Docks Acts so as to provide that the company shall, if required by P. and A. Campbell, Ltd., or any other owner, enter into an arrangement providing for the payment of a fixed sum as a composition by the year for the tonnage rates payable in respect of the steam vessels belonging to Messrs. Campbell or other owner using the docks on such terms as may be agreed, or failing agreement, as may be settled by arbitration. Parliamentary agents—Lewin, Gregory and Anderson, 2, Millbank House, Westminster.

##### CAVAN AND LEITRIM RAILWAY.

To authorise the company to construct a railway in Co. Kerry, and to enable the Treasury, the Lord Lieutenant of Ireland, or the Commissioners of Public Works in Ireland to make a free money grant for the cost of the railway. Solicitor—G. C. Macrory, Ulster Chambers, Belfast. Parliamentary agents—Sherwood and Co., 22, Abingdon Street, Westminster.



**GLASGOW DISTRICT SUBWAY COMPANY.**

To authorise the company to raise additional money to borrow, on mortgage, debentures, and otherwise, and to apply the money to paying off any existing mortgages or other capital liabilities, to extend the time for the sale of surplus lands, to enact that the subways of the company shall for all purposes be deemed to be railways, and that the company shall be deemed to be a railway company, to constitute the preference share and loan capital of the company a trustee security, and to change the name of the company. Solicitors—R. F. Dunne and Co., 10, Waterloo Street, Glasgow. Parliamentary agents—Wm. Robertson and Co., 45, Parliament Street, Westminster.

**THE EAST HANTS RAILWAY.**

To enable the company to make two new railways and a deviation railway in the East Riding, to acquire lands, to authorise the company and the Great Central Railway Company, or the Joint Committee of the two companies, to make a railway in the West Riding, to extend the time for the completion of authorised railways, to enable the company to supply water, gas, and electrical energy for their own use or of other persons on the company's docks, railways, or lands, or for the use of vessels using the company's undertaking, to enable the company to generate electrical energy, to revive the powers for the construction of the docks and railways authorised by the Hull Joint Dock Act, 1899, and extend the time for completion, and to raise further capital. Solicitor—J. S. Moss-Blundell, 19, Parliament Street, Hull. Parliamentary agents—Rees and Freres, 5, Victoria Street, Westminster.

**MARSDEN RAILWAY.**

To authorise the company to make five short lengths of railway in Nottinghamshire, to acquire lands, to extend the time for the construction of authorised railways, to abandon the construction of part of an authorised railway rendered unnecessary by one of the proposed lines, to raise additional capital, and to authorise tenants for life and trustees to take securities of the company as the consideration for the taking by the company of any of their property. Solicitors—Davies, Sanders and Swanwick, Chesterfield. Parliamentary agents—W. and W. M. Bell, 3a, Dean's Yard, Westminster.

**METROPOLITAN AND GREAT NORTHERN RAILWAY COMPANY.**

This Bill, which is promoted jointly by the Metropolitan and Great Northern Companies, seeks to constitute and incorporate a Joint Committee of directors of the two companies; to constitute the Joint Committee and railway company; to provide for the leasing to the Joint Committee by the Metropolitan Company of the undertaking of the Great Northern and City Railway Company, which was vested in the Metropolitan Company by their Act of 1913; to vest in the Joint Committee powers of the Act of 1913 to construct an extension railway in the City of London, to provide for the construction and maintenance by the Joint Committee of the above railway and also railways proposed in the Bill, namely, from a junction with the Great Northern and City Railway, at Moorgate Street Station, to a junction with the Inner Circle Railway, near Aldgate, and an extension of the railway, authorised in 1913 from beneath the northern end of Princes Street (at the Bank of England) to a junction with the Waterloo and City Railway, at the Bank terminus of that line; to authorise the Great Northern Company to make a connecting railway from the Great Northern and City Railway, at Drayton Park Station, to a junction with the Great Northern Railway, at Seven Sisters Road; to empower the Metropolitan Company to make a railway from a junction with their Uxbridge branch line at Harrow to a junction with the South Harrow branch line; to provide for the maintenance and working by the Metropolitan Company of the Great Northern and City line, and its proposed extensions under the control and in the interests of the Joint Committee; and to enable the two companies to raise additional capital. Solicitors—C. de W. Kitcat, 32, Westbourne Terrace, Paddington; R. Hill Dawe, 1, The Abbey Garden, Westminster. Parliamentary agents—W. and W. M. Bell, 3a, Dean's Yard, Westminster; Dyson and Co., Caxton House, Westminster.

NOTICE BY NOTICE TO THE PUBLIC.

**RAILWAY VESTING.**

To transfer to and vest in the North British Railway Company the undertaking of the Invergarry and Fort Augustus Railway Company, to wind up the Invergarry Company, to empower Inverness-shire County Council and their Second and

**THE NORTH BRITISH INVERGARRY COMPANY.**

exceeding 45,000 in the whole towards the purchase of the Invergarry undertaking, to enable the North British Company to abandon the pier in Loch Ness and the adjoining portion of railway, to provide that the Invergarry undertaking shall not be deemed to be a railway, and that the land which was at which the land would have been assessed if it had remained in the condition in which it was before its acquisition for the purpose of the undertaking of the Invergarry Company, and to empower the North British Company to work the Invergarry undertaking as a light railway. Solicitor James Watson, 23, Waterloo Place, Edinburgh. Parliamentary agents—Sherwood and Co., 22, Abingdon Street, Westminster. (The North British and Invergarry Companies are jointly promoting this scheme.)

To enable the company to make railways at Longbenton, Guisborough, and Middlesbrough and a river wall on the foreshore of the River Tees at Guisborough, to dredge the adjoining channel of the Tees and reclaim the foreshore and make docks, to empower the South Yorkshire Joint Line Committee to make railways in Tickhill (West Riding) and neighbourhood, to acquire lands, to extend the time for the completion of the widening of the company's Hull and Doncaster Railway, to vest the undertaking of the Scarborough, Bridlington and West Riding Junction Railways Company in the undertaking of the company, to lease or acquire the Brampton branch railway in the county of Cumberland, to work trackless trolley vehicles for the carriage of passengers, goods, minerals, etc., from Newcastle to Gateshead along the roadway on the company's high-level bridge, to raise further capital, and to make more effectual provision for the punishment of persons throwing missiles at trains or making unlawful use of communication cords. Solicitor R. F. Dunne, York. Parliamentary agents—Sherwood and Co., 22, Abingdon Street, Westminster.

**NORTHERN JUNCTION RAILWAY.**

To incorporate a company and to authorise it to construct railways in Middlesex, beginning with junctions with the London and South Western Railway, at Brentford, and proceeding by Ealing, Acton, Hanwell, Greenford, Wembley, Willesden, Hendon, Finchley, Hornsey, Wood Green, and Southgate. Junctions are proposed with the Metropolitan District, Great Central, Metropolitan, and Great Northern Railways. (This is a revival of a scheme which has been unsuccessful in previous sessions.) Solicitors—Cox and Lafone, Tower Royal, Cannon Street, E.C. Parliamentary agents—Burchells, 5, The Sanctuary, Westminster.

**PORT TALBOT RAILWAY.**

To enable the company to make two new piers and a new entrance lock at Port Talbot, to dredge and improve the harbour, and to enter into agreements with the Rhondda and Swansea Bay Railway Company for the exchange of lands. Solicitors—Broad and Co., 1, Great Winchester Street, E.C. Parliamentary agents—Dyson and Co., Caxton House, Westminster.

**RHONDDA AND SWANSEA BAY RAILWAY.**

To authorise the company to make two short railways in Aberavon and a widening of their main line, to abandon part of an authorised railway, and to raise additional capital. Solicitor—Hugh Bellingham, 20, Fisher Street, Swansea. Parliamentary agents—Rees and Freres, 5, Victoria Street Westminster.

**RHYMEY RAILWAY.**

To empower the company to construct a junction railway in Glamorgan-shire, between their Penallta branch railway and the Taff Vale extension line of the Great Western Railway, to acquire lands, and to extend the time for completion of authorised railways. Solicitors—L. G. Williams and Prichard, 32, Charles Street, Cardiff. Parliamentary agents—Torr, Durnford and Co., 2, Millbank House Westminster.

**CORPORATION.**

To make provision with reference to the fund established in pursuance of the Railway Clearing System Superannuation Fund Acts, 1873 to 1897, and to empower the Railway Clearing House and the railway companies and joint committees subscribing to the fund and the Clearing House Committee (Ireland) to increase their contributions thereto. Solicitor—A. C. Beattie, 17, Bedford Row, W.C. Parliamentary agents—



The Chairman, Mr. S. W. P. ...  
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of knowing the promoter's case beforehand, but the petitioner's case was fairly well known to the promoters, and petitioners were not allowed to raise any point before the Committee which was not clearly stated in the petition. Petitioners against Bills were often able to present a much better case in the second House.

The Chairman: Explaining their position as regards the petition.

Witness thought that the case of the promoters would be much too general to admit of that being done. Their case was that in the public interest their Bill should pass. The case of petitioners would be on some minor or particular ground, and it would be difficult for the promoters to express with any definiteness what their case was going to be, seeing they alleged that the powers they sought were in the public interest. In the case of a big Bill, the report of a joint committee was always accepted by both Houses.

The Chairman: It is a costly affair to get a Bill through Parliament; is that in consequence of the expense of counsel and expert witnesses, and so on?

Witness replied that the area over which the Bill extended was the real cause of the expenditure. He did not think a tribunal could conduct a big case with less expense than was incurred in the House of Commons. Many witnesses would have to be kept in town ready to give evidence from all parts.

The Chairman: Can you suggest any means of diminishing the expense?

Witness replied that he thought there were many cases which ought to cost nothing which now cost a great deal. There were many cases in which companies applied for powers which they really ought to be able to get without going to Parliament at all, because the powers they sought raised no question of principle. For instance, a company might want to widen its line or require land for other purposes, and make improvements of their undertaking, as distinguished from the policy in making a new line. He did not see why it should be necessary for the companies to go to Parliament, and if they did not have to go it would have a very beneficial effect, for an improvement which was desirable would not have to wait for the accumulation of other improvements which traders might want. If they had only to go to a tribunal delay would be avoided.

The Chairman: And you would suggest that the Board of Trade should have the power to grant such powers?

Witness explained that that Commission was created for the purpose of encouraging cheaply-constructed railways, and he could not see, if it was desirable to encourage light street-railway construction.

The Chairman: If the Board of Trade were to grant such powers, it would not be the construction of a considerable line even of railways of the old type, might be entrusted to the Light Railway Commission.

Witness: That is what I should suggest. Continuing, he

number of improvements it was desirable to obtain—bits of land here, there and everywhere for the purpose of giving better access to the rail, avoidance of level crossings, and so on. Replying to a question as to who would decide whether

the Board of Trade, and if the Board thought there was any

would leave the discretion with the Board of Trade as at present existing, for, say, on a local line, he did not see why the Board should not deal with it instead of Parliament.

He then dealt with tramways.

He then dealt with tramways.

He then dealt with tramways.

He then dealt with tramways.

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# MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

Cordoba Central Railway

South Indian Railway

Peninsula and Oriental Steam Navigation

at 1.

Bombay, Baroda and Central India Railway

at 1.

intelligence should be sent as early as possible to the Editor of THE RAILWAY TIMES, 12, Norfolk Street, London, W.C. (Tele-

## CANADIAN NORTHERN RAILWAY COMPANY.

The results of the operations of the Canadian Northern Railway Company for the year ending March 31, 1913, are presented to the shareholders.

The results of the operations of the Canadian Northern Railway Company for the year ending March 31, 1913, are presented to the shareholders. The gross earnings were \$18,561,026.00; from express, mail, telegraph, dining and sleeping car service, \$2,210,953.22—total \$24,527,478.47. Working expenses (including taxes, etc.), \$17,503,610.57; net earnings, \$7,023,867.90; deduct fixed charges, \$5,190,024.12—surplus, \$1,832,943.78; from this surplus for the year, \$844,720.29.

The net earnings were 16.38 per cent., and the net earnings of \$892,822.79, or 15.18 per cent., over the preceding year.

The working expenses were 74.64 per cent. of the gross earnings of the railway proper, and, including taxes, 72.10 per cent. of the gross earnings from all sources, compared with 73.82 per cent. and 71.81 per cent. respectively last year.

During the year 236 miles of newly-constructed tracks were added to the system, the average mileage operated being 4,297 miles.

The results of the operations of the Canadian Northern Railway Company for the year ending March 31, 1913, are presented to the shareholders. The actual average price per acre during the current year was \$15.36 per acre. This compares with 55,111 acres for \$836,084.37, an average of \$15.17 per acre during the preceding year. Whilst your directors have not made any special effort to sell the railway's own lands, the policy of colonising Dominion Government farm lands has been continued, and over two million acres were seen in the increased movement of agricultural products of all kinds.

will exceed that of any previous year in point of quality and abundance of yield. The marketing of grain from the territories served by your railway has commenced considerably earlier than last year, and the quantity of uniform high-grade grain shipped to the Lake Ports at the date of the report is very much in excess of any previous year at the same date, being reflected in increased activity in the industrial centres

the new railway is constructed abounds in valuable natural resources waiting only railway facilities for development, guarantees to your company a very large measure of traffic in the immediate future.

during the year, and the whole of the proceeds have been or are of the line.

The Parliament of Canada granted during the year to the Canadian Northern Ontario and the Canadian Northern Alberta Railways, parts of the Canadian Northern Railway system, a cash subsidy of \$15,640,000. This subsidy and those previously granted in aid of the system have been, or will be, expended on construction, improvements and equipment. All moneys also received from the sale of the land grants or raised by securities have been expended in the same manner. The increase of \$7,000,000 in the capital stock of the company represents the amount issued to the Government of Canada pursuant to the provisions of the statute under which the cash

Your directors submit the following statement showing in concise form the company's growth during the past ten years:

Live stock (head) ...	23,775	230,133
Passenger Traffic		
Sleeping and Dining		
Freight Traffic		
Baggage, Mail and		
Freight		

the betterment of the service in every department, including the various lines.

will shortly be established between Toronto, Ottawa, Montreal section connecting with the western lines at Port Arthur, in a large volume of traffic originating on its lines in the east and

Northern Ontario Railway, will be a substantial advantage to

Recognised authorities conservatively estimate the yield for

15,000,000 bushels.

The earnings derived by your company from this great crop

## CORDOBA CENTRAL RAILWAY.

The directors present accounts dealing separately with the half-year ended December 31, 1912, which only concern the stock and share-holders on the registers at that date, and secondly with the year ended December 31, 1912, which concern the holders of the

second debenture stock, £3,408,022, 5 per cent. cumulative.

The accounts for the original line and central northern

In accordance with the provisions of the scheme of amalgamation the following dividend payments in respect of the half-year were made in July last to the stockholders whose names appeared upon the registers on December 31, 1912, and in respect of the year ended December 31, 1912, to the holders of the

cent. on the 5 per cent. second preference stock £2 10s. per cent. on the income debenture stock (central northern section) 7s. 12½ cent., and the next revenue accounts of the original line and the central northern section were closed by transferring the balances to general reserve account.

The results of the working of the Buenos Ayres Extension Railway for the six months to December 31, 1912, compared with those of the corresponding six months, were as follows:

against £27,782.

net rental obtained from the letting of the administration Building in Buenos Ayres has been carried to the credit of the extension contract account. This account, which was closed

against which has been credited a like amount in respect

company held by this Company, and which shares, under the purchase agreement, were surrendered. The value so placed upon these shares has been debited to capital account as part

Central Company's system such an amount of additional

in cash by the former company. The amount of such de-

£280 added net rental of the administra-

£11,808 carried forward.

£122,518 in respect of depreciation of investments

and coal exploration, lake steamers, insurance, and income

tax, and setting aside £108,000 for additional 2 per cent.

on debentures, as required by the debenture resolutions,

the directors propose a dividend of 2½ per cent. on the pre-

£11,808 carried forward.

£122,518 in respect of depreciation of investments

and coal exploration, lake steamers, insurance, and income

tax, and setting aside £108,000 for additional 2 per cent.

on debentures, as required by the debenture resolutions,

the directors propose a dividend of 2½ per cent. on the pre-

of issue of £700,000 four-and-a-half per cent. second debenture stock, £3,749; amount transferred to renewal fund £11,808; total dividend on five per cent. stock £122,518; total dividend on four-and-a-half per cent. stock £49,508. This suffices for payment of 2½ per cent. on the ordinary income stock, being at rate of 2½ per cent. per annum. The principal figures for the half-year to June 30, 1913, compare as follows with the corresponding figures for the half-year to June 30, 1912: gross receipts an increase of £122,510, equal to 15.15 per cent.; working expenses an increase of £11,980, equal to 1.91 per cent. and net receipts an increase of £110,530, equal to 61.30 per cent. Passenger receipts amounted to £183,826, an increase of £11,808, equal to 6.7 per cent. Freight receipts amounted to £10,870, an increase of 45.81 per cent. Receipts from goods and live stock amounted to £185,147, an increase of £11,271, equal to 11.61 per cent. General reserve account shows a credit balance of £183,645 after charging against the reserves the balance in suspense at December 31 last for renewals on the original line and central northern section, and adjusting the values of certain assets.

debtenture stock was made in March last towards meeting the cost of additional rolling stock and new works and improvements.

In addition to the locomotives and rolling stock included therein, the following quantities are being provided:—48 locomotives, 1,350 wagons, 23 passenger coaches. The new works and improvements projected include the laying of a third track to a point some 104 kilometres from Buenos Ayres, where a junction will be made with a line to be constructed by the Entre Rios Railway.

This connection will provide a route for the Entre Rios main line traffic into this company's terminals in the City of Buenos Ayres, and it is anticipated that considerable revenue will be obtained from that source. It is the intention of the board to limit other expenditure on capital account for the present to the completion of the works in hand and to indispensable requirements. The approximate gross traffic receipts for the twenty weeks ended November 10, 1913, compared with those of the corresponding period of 1912, were as follows:

The latest advices from the Argentine are that a considerable tonnage of the present year's crops of sugar and maize has yet to be carried, and that the area under cereal cultivation shows a substantial increase over that of last year, the present indications being that a large grain crop will be carried as the result of the next harvest.

Mr. Stuart, who has been appointed by the board as the agent of the company under the agreement with the Argentine Railway Company. Mr. Stuart's functions are to report to the board upon the working of the railway by the operating company and upon the maintenance and condition of the permanent way and equipment.

## DIVIDEND ANNOUNCEMENTS.

W. & A. RAILWAY COMPANY. A dividend of 2½ per cent. on the ordinary income stock, being at rate of 2½ per cent. per annum, will be paid on November 29, 1913, to the holders of the ordinary income stock, £122,518, and to the holders of the second debenture stock, £49,508. This suffices for payment of 2½ per cent. on the ordinary income stock, being at rate of 2½ per cent. per annum. The principal figures for the half-year to June 30, 1913, compare as follows with the corresponding figures for the half-year to June 30, 1912: gross receipts an increase of £122,510, equal to 15.15 per cent.; working expenses an increase of £11,980, equal to 1.91 per cent. and net receipts an increase of £110,530, equal to 61.30 per cent. Passenger receipts amounted to £183,826, an increase of £11,808, equal to 6.7 per cent. Freight receipts amounted to £10,870, an increase of 45.81 per cent. Receipts from goods and live stock amounted to £185,147, an increase of £11,271, equal to 11.61 per cent. General reserve account shows a credit balance of £183,645 after charging against the reserves the balance in suspense at December 31 last for renewals on the original line and central northern section, and adjusting the values of certain assets.

PERUVIAN CORPORATION. After placing £25,000 to reserve, applying £22,518 in respect of depreciation of investments and coal exploration, lake steamers, insurance, and income tax, and setting aside £108,000 for additional 2 per cent. on debentures, as required by the debenture resolutions, the directors propose a dividend of 2½ per cent. on the pre-

Colonial Railway Equipment Contracts. The Colonial Railway Equipment Contracts, which were entered into by the

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# GENERAL NEWS.

## LONDON AND SOUTH WESTERN ANNUAL SMOKING CONCERT.

Lord Selborne, Mr. Martin Holland and Sir William Pottel;

line; Mr. R. W. Urie, chief mechanical engineer; Mr. A. W.

gratulate the committee upon the excellence of the musical programme, while the fact that the membership of the Institute was increasing was highly satisfactory. They could

could congratulate themselves on the wonderful way the railway went on year after year with hardly a single accident. It was reassuring to the public to know that if anything did occur there were many among the staff able to render efficient first-aid. (Cheers.) When they looked at the magnificent lot of prizes he thought they might all well be

now had 2,143 of the company's employees who had gained first-aid certificates. (Cheers.) In addition to that, 900 held the second and third-class examination vouchers and medallions, which was a very fine record. The team competitions had been keen, the first prize being gained by "A" team from Wimbledon, Southampton being second, thus reversing the position of affairs of last year. The third prize went to Richmond and the consolation prize to Eastleigh. He had an interesting communication to make regarding first aid work. When abroad he heard of the accident at Waterloo, and was relieved to find afterwards that it was on the South Eastern at Waterloo Junction, but first-aid was rendered from their system and the service was very valuable, and a telegram had been received from Mr. Dent, the general manager of the South Eastern and Chatham, as follows: "My directors and self are extremely grateful for assistance rendered by South Western ambulance men in unfortunate accident at Waterloo Junction." The eight men concerned had received tangible recognition from the South Eastern directors. (Loud cheers.) In another case the Gillingham ambulance corps came to the rescue of a man with a bad fracture, and Dr.

efficient manner in which first-aid had been rendered. (Cheers.) These were two prominent instances, but doubtless in many other places on the company's system first-aid had been rendered of which they knew nothing, and all concerned could be congratulated upon their efficiency. (Cheers.) One special

of bravery by a South Western man. Mr. A. Rogers, on station, saw a man attempt to commit suicide by jumping off the platform in front of the train. He immediately sprang down and dragged the man away just in time, for the train was only ten yards away. (Loud cheers.) It was a gallant action of a gallant man and worthy of the best traditions of the South Western. His colleagues had been anxious to acknowledge in some way their appreciation of what Mr. Rogers had done, and he had the privilege and pleasure of asking him that evening to accept a silver watch suitably inscribed as a memento of the occasion. (Loud cheers.) The Chairman, having given away the cricket, football, rifle, cycling, swimming and billiard prizes, said that the shooting trophy had been won by Mr. Campbell with a score of 440 out of a possible 470, the Demagol prize by a score of 142 out of a possible 150 and the Express medalion with a score of

shield had been won by the South Western team two years running, six teams competing. (Loud applause.)

Mr. Kent (Carriage and Wagon Dept.) proposed to toast to sit under so kind and genial a president as Mr. Drummmond. Mentioning that he was about to retire from the service, Mr.

everyone connected with it for the support and kindness he had always received.

Mr. Hugh W. Drummmond returned his acknowledgments him. He believed their hearts welcome was thoroughly genuine, and he could assure them that he and his colleagues looked forward to meeting their comrades on their annual connected with the railway nothing but kindness and assist.

his life, he would feel that there must be something wrong with himself. He was sorry to hear Mr. Kent's service was drawing to a close, but he would take with him into his health and happiness. He sincerely hoped that the Institute

dated, was contributed to by Miss Pauline Thacker, Miss Nance Haines, Miss Helen Blain, Miss Edith Trevor, Mr Bromley Carter, Mr. Bernard Turner, Mr. Dion Lane. The arrangements were under the superintendence of Mr. W. Beckmaster.

## THREE MONTHS' RAILWAY ACCIDENTS.

The Board of Trade Blue-book giving a summary of the accidents and casualties reported to the Board by the railway companies of the United Kingdom during the three months ended June 30 of the present year shows that 234 persons were killed and 1,671 injured in the course of public traffic in the period covered by the report. No passenger was killed, but

persons on business at stations were killed and 33 injured. As or contractor's servant was killed and 50 injured, while from "other causes" 83 company or contractor's servants were killed and 1,245 injured.

## PERSONAL.

Mr. Peter Wordie, a Glasgow railway contractor, who resided

Mr. Robert Thompson

Mr. C. I. Lister,

Railway.

Dr. Nourse and Ash.

Mr. Almon Potter

Mr. R. D. Marshall, of Castlelag Manor, Kewick, Vice-chairman of the Cockermouth, Kewick and Parnith Railway, estate of the value of £16,605.

Mr. S. Gillingham

Northern Railway at Peterborough, in succession to Mr.

Sir Henry Kimber, chairman, and Mr. Neville Presley,

together with Mr. A. Breton, General and director of Indian Guaranteed Railways, will probably be present at the

Mr. E. S. Gillingham

Reserve for the use of his invention of a compressed gas fire

Herr Veit, former Consul, has been appointed general representative of the Canadian Pacific Railway in Vienna, with the

the Ministry of Transport. The London and North Western Railway is the only one of the four which has not been nationalized.

Mr. W. J. Cooke, General Manager of the London and North Western Railway, O.P. and G.P. Railway, has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway, and will be succeeded by Mr. H. H. Hill, who has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway.

Mr. Burrows, Butler, has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway, and will be succeeded by Mr. H. H. Hill, who has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway.

Mr. T. W. Hutchinson, General Manager of the London and North Western Railway, O.P. and G.P. Railway, has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway, and will be succeeded by Mr. H. H. Hill, who has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway.

Colonel Kidd, General Manager of the London and North Western Railway, O.P. and G.P. Railway, has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway, and will be succeeded by Mr. H. H. Hill, who has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway.

Mr. Gilbert L. Southam, General Manager of the London and North Western Railway, O.P. and G.P. Railway, has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway, and will be succeeded by Mr. H. H. Hill, who has been appointed to the position of General Manager of the London and North Western Railway, O.P. and G.P. Railway.

## RAILWAY NOTES.

**2,200,000,000 Russian Railway Loan.** The Russian Government has issued a loan of 2,200,000,000 roubles for the purpose of constructing railways in Russia.

**Barsi Light Railway Company.** The Barsi Light Railway Company has been formed for the purpose of constructing a light railway between Barsi and the sea.

**Destruction of Grand Trunk Sheds.** The Grand Trunk Railway has decided to destroy its sheds at Montreal, Quebec, and Ottawa.

**Shire Highlands Railway, Newcastle.** A new railway has been proposed for the Shire Highlands Railway, Newcastle, for the purpose of connecting the Shire Highlands Railway with the Newcastle Railway.

**Rolling Stock Required for India.** The Indian Government has decided to purchase a large quantity of rolling stock for the purpose of constructing railways in India.

**Track Widening for North Wales Holiday Traffic.** The London and North Western Railway has decided to widen its tracks for the purpose of increasing holiday traffic from North Wales.

**A New Railway for Devonshire.** Mr. R. H. Hill, General Manager of the London and North Western Railway, has announced that his firm have practically found the money for the construction of a new railway in Devonshire.

## OBITUARY.

At the age of sixty-nine years, Mr. A. H. Hill, M.A.O., General Manager of the London and North Western Railway, died on Sunday, November 22, 1915.

Mr. Hill, who was a native of Wiltshire, entered the service of the London, Chatham and Dover Railway in 1862 as a clerk, and rose to the position of General Manager of the London and North Western Railway in 1902.

He was a member of the Railway Club, and was a keen sportsman. He was also a member of the London and North Western Railway Club.

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Mr. Hill was a member of the Railway Club, and was a keen sportsman. He was also a member of the London and North Western Railway Club. He was a member of the Railway Club, and was a keen sportsman. He was also a member of the London and North Western Railway Club.

Mr. John Middleton, a director of the Railway and Works Company, died on Wednesday, November 25, 1915.

Mr. C. G. Leese, a director of the Railway and Works Company, died on Wednesday, November 25, 1915. He was a member of the Railway Club, and was a keen sportsman. He was also a member of the London and North Western Railway Club.

## BANK RETURN.

The return of the Bank of England for the week ended Wednesday, November 25, 1915, is as follows:

Nov. 25, 1915.	BANKING DEPARTMENT.	Nov. 26, 1915.	Decreases.	Increases.
£	<i>Liabilities.</i>	£	£	£
10,611,397	Reserve	10,611,397	—	—
10,611,397	Public Deposits	10,611,397	—	—
10,611,397	Other	10,611,397	—	—
10,611,397	7 Day Bills	10,611,397	—	—
10,611,397	<i>Assets.</i>	10,611,397	—	—
10,611,397	Govt. Securities	10,611,397	—	—
10,611,397	Other	10,611,397	—	—
10,611,397	Notes Issued	10,611,397	—	—
10,611,397	Gold and Silver	10,611,397	—	—
10,611,397	Reserve	10,611,397	—	—
10,611,397	Public Deposits	10,611,397	—	—
10,611,397	Other	10,611,397	—	—
10,611,397	7 Day Bills	10,611,397	—	—
10,611,397	<i>Assets.</i>	10,611,397	—	—
10,611,397	Govt. Securities	10,611,397	—	—
10,611,397	Other	10,611,397	—	—
10,611,397	Notes Issued	10,611,397	—	—
10,611,397	Gold and Silver	10,611,397	—	—

## PECKETTS' LOCOMOTIVES

J. PECKETT & SONS,  
ATLAS LOCOMOTIVE WORKS, BRISTOL.

## MIDLAND

RAILWAY CARRIAGE & WAGON CO., LTD.,

Builders of  
**RAILWAY CARRIAGES,  
RAILWAY WAGONS,  
TRAMWAY CARS,**  
and every description of Rolling Stock.

**MIDLAND WORKS, BIRMINGHAM,  
and Abbey Works, Shrewsbury.**

# RAILWAY STOCK AND SHARE LIST.

HOME RAILWAY ORDINARY STOCKS.

### Debenture Stocks.

[illegible]

### Debenture Stocks (continued)

[illegible]

### Preference Stocks.

[illegible]

### Preference Stocks—

(1971-1972).



## Colonial Railways.

### Foreign Railways.

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913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**American Railways.**

[illegible]

## OFFICIAL TRAFFIC RETURNS.

Barry.			Great Northern (Ireland).			Metropolitan.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£11,440	£11,440	Passengers, etc.	£3,775	£3,775	Passengers, etc.	£1,100	£1,100
Goods, etc.	4,220	4,220	Goods, etc.	4,220	4,220	Goods, etc.	4,220	4,220
Total for week	£15,660	£15,660	Total for week	£7,995	£7,995	Total for week	£5,320	£5,320
Inc. this week, £240			Inc. this week, £240			Inc. this week, £240		
Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500		
Caledonian.			Great North of Scotland.			Metropolitan District.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£2,531	£2,401	Passengers, etc.	£11,201	£11,201	Passengers, etc.	£1,100	£1,100
Goods, etc.	500	500	Goods, etc.	1,468.95	1,468.95	Goods, etc.	1,468.95	1,468.95
Total for week	£3,031	£2,901	Total for week	£12,669.95	£12,669.95	Total for week	£2,568.95	£2,568.95
Inc. this week, £240			Inc. this week, £240			Inc. this week, £240		
Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500		
Cambrian.			Great Southern and Western.			Midland Great Western of Ireland.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£2,531	£2,401	Passengers, etc.	£11,201	£11,201	Passengers, etc.	£1,100	£1,100
Goods, etc.	500	500	Goods, etc.	1,468.95	1,468.95	Goods, etc.	1,468.95	1,468.95
Total for week	£3,031	£2,901	Total for week	£12,669.95	£12,669.95	Total for week	£2,568.95	£2,568.95
Inc. this week, £240			Inc. this week, £240			Inc. this week, £240		
Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500		
Central London.			Great Western.			North London.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£11,200	£10,600	Passengers, etc.	£11,200	£10,600	Passengers, etc.	£1,100	£1,100
Goods, etc.	1,468.95	1,468.95	Goods, etc.	1,468.95	1,468.95	Goods, etc.	1,468.95	1,468.95
Total for week	£12,668.95	£12,068.95	Total for week	£12,668.95	£12,068.95	Total for week	£2,568.95	£2,568.95
Inc. this week, £240			Inc. this week, £240			Inc. this week, £240		
Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500		
City and South London.			Highland.			North Eastern.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£11,200	£10,600	Passengers, etc.	£11,200	£10,600	Passengers, etc.	£1,100	£1,100
Goods, etc.	1,468.95	1,468.95	Goods, etc.	1,468.95	1,468.95	Goods, etc.	1,468.95	1,468.95
Total for week	£12,668.95	£12,068.95	Total for week	£12,668.95	£12,068.95	Total for week	£2,568.95	£2,568.95
Inc. this week, £240			Inc. this week, £240			Inc. this week, £240		
Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500		
Dublin and South Eastern.			Hull and Barnsley.			North Staffordshire.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£11,200	£10,600	Passengers, etc.	£11,200	£10,600	Passengers, etc.	£1,100	£1,100
Goods, etc.	1,468.95	1,468.95	Goods, etc.	1,468.95	1,468.95	Goods, etc.	1,468.95	1,468.95
Total for week	£12,668.95	£12,068.95	Total for week	£12,668.95	£12,068.95	Total for week	£2,568.95	£2,568.95
Inc. this week, £240			Inc. this week, £240			Inc. this week, £240		
Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500			Inc. 47 weeks, £93,500		
Furness.			Lancashire and Yorkshire.			Rhymney.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£12,500	£12,400	Passengers, etc.	£37,000	£35,653	Passengers, etc.	£3,452	£3,452
Goods, etc.	21,500	20,900	Goods, etc.	71,500	73,726	Goods, etc.	18,405	18,405
Total for week	£34,000	£33,300	Total for week	£108,500	£109,379	Total for week	£21,857	£21,857
Inc. this week, £400			Inc. this week, £779			Inc. this week, £450		
Inc. 47 weeks, £1,000			Inc. 47 weeks, £260,257			Inc. 47 weeks, £707		
Glasgow and South Western.			London, Brighton and South Coast.			South Eastern and Chatham.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£12,500	£12,400	Passengers, etc.	£36,810	£37,410	Passengers, etc.	£4,000	£4,000
Goods, etc.	21,500	20,900	Goods, etc.	17,285	17,168	Goods, etc.	19,970	19,537
Total for week	£34,000	£33,300	Total for week	£54,095	£54,578	Total for week	£23,970	£23,537
Inc. this week, £400			Inc. this week, £3,105,246			Inc. this week, £1,000		
Inc. 47 weeks, £1,000			Inc. 47 weeks, 2,991,021			Inc. 47 weeks, £1,000		
Great Central.			London Electric.			South Eastern and Chatham.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£20,800	£20,000	Passengers, etc.	£14,350	£14,300	Passengers, etc.	£3,452	£3,452
Goods, etc.	73,000	73,600	Goods, etc.	£14,350	£14,300	Goods, etc.	£18,405	£18,405
Total for week	£93,800	£93,600	Total for week	£28,700	£28,600	Total for week	£21,857	£21,857
Inc. this week, £240			Inc. this week, £300			Inc. this week, £1,000		
Inc. 47 weeks, £93,500			Inc. 47 weeks, £1,440			Inc. 47 weeks, £1,000		
Great Eastern.			London and North Western.			South Eastern and Chatham.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£31,770	£30,900	Passengers, etc.	£116,000	£116,000	Passengers, etc.	£58,045	£58,045
Goods, etc.	57,700	55,700	Goods, etc.	180,000	181,000	Goods, etc.	£18,405	£18,405
Total for week	£89,470	£86,600	Total for week	£296,000	£297,000	Total for week	£76,450	£76,450
Inc. this week, £2,900			Inc. this week, £1,000			Inc. this week, £1,000		
Inc. 47 weeks, £93,500			Inc. 47 weeks, £7,900			Inc. 47 weeks, £1,000		
Great Northern.			London and South Western.			Taff Vale.		
Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.	Week ending November 23	1913.	1912.
Passengers, etc.	£80,800	£79,800	Passengers, etc.	£53,700	£52,500	Passengers, etc.	£3,452	£3,452
Goods, etc.	18,000	18,000	Goods, etc.	18,000	18,000	Goods, etc.	£18,405	£18,405
Total for week	£98,800	£97,800	Total for week	£71,700	£70,500	Total for week	£21,857	£21,857
Inc. this week, £1,500			Inc. this week, £1,000			Inc. this week, £1,000		
Inc. 47 weeks, £93,500			Inc. 47 weeks, £1,000			Inc. 47 weeks, £1,000		

## OFFICIAL TRAFFIC RETURNS.

## BRITISH AND IRISH RAILWAYS. &amp;c.

## FOREIGN AND COLONIAL—Continued.

	Miles		Population		Area		Population		Area	
	1913.	1912.	1913.	1912.	1913.	1912.	1913.	1912.	1913.	1912.
1913.	1184	1184	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1912.	155	155	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1911.	1,710	1,694	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1910.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1909.	678	678	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1908.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1907.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1906.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1905.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1904.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1903.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1902.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1901.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1900.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1899.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1898.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1897.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1896.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1895.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1894.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1893.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1892.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1891.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1890.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1889.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1888.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1887.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1886.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1885.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1884.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1883.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1882.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1881.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1880.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1879.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1878.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1877.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1876.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1875.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1874.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1873.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1872.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1871.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1870.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1869.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1868.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1867.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1866.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1865.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1864.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1863.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1862.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1861.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1860.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1859.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1858.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1857.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1856.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1855.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1854.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1853.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1852.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1851.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1850.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1849.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1848.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1847.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1846.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1845.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1844.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1843.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1842.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1841.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1840.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1839.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1838.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1837.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1836.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1835.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1834.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1833.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1832.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1831.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1830.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1829.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1828.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1827.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1826.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1825.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1824.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1823.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1822.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1821.	113	113	4,45,211	4,45,211	18,91,371	18,91,371	-37,53	-37,53	18,91,371	18,91,371
1820.	113	113	4,45,211							



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SOUTHAMPTON AND ST. MALO. Passengers and Merchandise.

SOUTHAMPTON to ST. MALO—

Departures: 5.15, 1.50, 3.00 p.m.

ST. MALO to SOUTHAMPTON—

Departures: 1.15, 3.15, 5.15 p.m.

SOUTHAMPTON AND CHERBOURG.

Passengers and Merchandise.

SOUTHAMPTON to CHERBOURG—Every Tuesday and Thursday at 11.15 p.m. (Last train from Waterloo, 8.45 p.m.)

CHERBOURG to SOUTHAMPTON—Every Tuesday and Thursday at 11.0 p.m.

SOUTHAMPTON

AND THE

CHANNEL ISLANDS.

Every Monday, Wednesday, Friday, and Sunday. From SOUTHAMPTON—Steamer sails 12.15 p.m. Last train from Waterloo 8.45 p.m. To SOUTHAMPTON—Steamer leaves JERSEY 8 a.m. GUERNSEY, 10 a.m. JERSEY to ST. MALO, and vice versa, see special notices. JERSEY to GRANVILLE, and vice versa, see special notices.

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(503)

H. A. WALKER, General Manager.

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## Golf in the . . . Lake-District . . .

FURNESS ABBEY HOTEL  
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Special week-end Terms.

Telegrams—Hotel, Furness Abbey.  
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ABBOTTSIDE HOTEL, 1913

SILVERDALE	9 holes
ARNSIDE	9 holes
KENDAL	18 holes
GRANGE	9 holes
ULVERSTON	18 holes
GREENODD	9 holes
BOWNESS WINDERMERE	18 holes
BIRTHWAITE	9 holes
AMBLESIDE	9 holes
WALNEY ISLAND	18 holes
ASKAM	10 holes
SILECROFT	9 holes
SEASCALE	18 holes
ST. BEES	9 holes

**CHRISTMAS EXCURSIONS** from LONDON  
(Euston & St. Pancras) to the LAKE  
DISTRICT on TUESDAY and WEDNESDAY,  
December 23 & 24, for 3, 4 or 8 days.

Barrow-in-Furness, December, 1913.

Cheap Day and Week-End Tickets are issued  
between all Pleasure Resorts on the Furness  
Railway all the year round.

For further particulars as to Tourist, Weekly, Fort-  
nightly, and other Cheap Bookings, apply to Mr. A.  
A. Haynes, Superintendent of the Line, Barrow,  
and all Station Masters on the Furness Railway;  
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ALFRED ASLETT, Secretary and General Manager

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Great Eastern Railway Company.

The Grand Trunk Railway Company  
of Canada.

The Grand Trunk Railway Company  
of Canada.

A MODEL has been given that under-  
 stands the way in which people in  
 the United States think about the  
 environment. The model, developed by  
 a team of researchers at the University  
 of Wisconsin, Madison, was based on  
 a study of 1,000 people in 1987.  
 The model was developed by a team  
 of researchers at the University of  
 Wisconsin, Madison, who were  
 studying the way in which people  
 think about the environment. The  
 model was based on a study of  
 1,000 people in 1987. The model  
 was developed by a team of  
 researchers at the University of  
 Wisconsin, Madison. The model  
 was based on a study of 1,000  
 people in 1987. The model was  
 developed by a team of researchers  
 at the University of Wisconsin,  
 Madison. The model was based on  
 a study of 1,000 people in 1987.

The Bengal-Nagpur Railway Company.  
Limited.

**NOTICE** is hereby given that the  
be closed from 15th to 31st December, 1914, both  
inclusive, for the preparation of the Warrants for  
the interest for half-year ending 31st December  
1913. The Warrants will be posted on 1st January,  
1914.

The Great Indian Peninsula Railway  
Company, Limited.

**NOTICE** is hereby given that the  
Registration Books in respect of the Three-  
and-a-Hall per cent. Debiture Stock will be  
closed from the 25th December instant to the 15th  
January 1900.  
By Order of the Directors,  
J. H. WATSON,  
48, Cophthall Avenue, London, E.C.

## OFFICIAL ADVERTISEMENTS for

THE LONDON & NORTH-WESTERN RAILWAY COMPANY  
NORFOLK STREET, STRAND, LONDON, W.C.2

### REDUPLICATION OF MORTGAGES COMMONLY CALLED LAININGS

[illegible]

**TENDER INVITED.**

Dublin and South Eastern Railway,  
Company.

## COMPLETING ANY MATRICES

THE Directors of the above Company have resolved to purchase of the following old permanent way materials:

17 tons, Dromedary Hills, S.W. of B. 1000.  
 30 tons, Dromedary Hills, B. 1000.  
 100 tons, East of Lake S. 1000.  
 100 tons, W. of East Lake S. 1000.  
 30 tons, S. of Lake S. 1000.

These are the only known occurrences of the species in the  
 Dublin area. The species is also found in the W. of the B. 1000.

Way Scrap," and addressed to the undersigned, to  
Secretary's Office, Secretary.

## LOCOMOTIVE, Carriage, and Wagon

Agents for the Colonies, Whitehall gardens,  
London, S.W.

## INCORPORATING

**Patent Shaft and Axletree Co., Ltd., Docker Bros., Ltd., and  
the Willingsworth Iron Co., Ltd.**

IRON AND STEEL UNDERFRAMES, WHEELS, AXLES,  
AND EVERY DESCRIPTION OF ROLLING STOCK,  
PRESSED STEEL BOGIE TRUCKS, The "Brunswick" Weldless Disc Wheel.  
BRIDGEWORK AND ROOFS, DOCKERS' SUPERIOR VARNISHES, PAINTS,  
and FINE COLOURS, for all Climates.  
Dockers' "Hermator" Paints for Structural and all classes of Engineering Work.

Reg. Offices SAILFY, BIRMINGHAM. London Offices BRUNSWICK HOUSE CENTRAL BLDGS., WESTMINSTER, S.W.  
Telegrams "METRO," BIRMINGHAM. "RAILCAR, VIC., LONDON." "SHAFT," WEDNESBURY.

The traffic returns recorded this week, so again as will be seen from our usual summary, are the whole quite satisfactory. Owing to the Dublin strike the London and North Western Railway record is a little less than in the other hand, the Midland, the Great Western, the Great Northern, and the North Eastern have added to their aggregate increases. In all cases the aggregates are such as would, in normal conditions, awaken great interest, and almost certainly lead to a revival in the market for Home railway securities. The yields now obtainable are attractive, and it is natural that prices should show a tendency to rise. Financial writers in the daily newspapers, who are accustomed to record rather than to anticipate events, exhibit considerable surprise indeed that the railway market receives so little attention. Prices are now at such low levels that they may well seem tempting; and investors who are not concerned about the near future of their holdings might do much worse than yield to the attractions of Home railway stocks. It would be a mistake, however, to overlook the fact that our railways are about to enter upon a period of great unsettlement, in the course of which it is quite possible that prices of stocks, even now at a low level, will show further declines. In a short time the new demands of the railwaymen will be made public, and unless all indications are misleading they will be found to be such that the companies cannot possibly accept them. While the companies are, to a certain extent, prosperous, as a whole they yield only a fair return on their capital, and any marked increase in expenses would tell seriously upon dividends. No one would deny that railway shareholders are entitled to their modest dividends; but all other classes in the community have no hesitation in advancing demands upon the railways which, if granted, would curtail dividends, if they did not wipe them out. Traders allege that the railways are extravagantly worked; but they are the first to complain of any attempt to reduce facilities. Employees call for higher wages and shorter hours: but they declaim against all efforts of the companies to reduce their staffs or to encourage them to greater efficiency. Both classes indeed, intend to benefit at the expense of the shareholder. The average union employee long since ceased to take any interest in the welfare of his company. His interests, he considers, are opposed to those of the company from whom he derives his livelihood; and he intends with ever increasing pressure to obtain his immediate ends irrespective of the effect which his unreasoning demands will have on the companies. For the past two years the employees have been restrained by an agreement, and we have had comparative peace broken by various sporadic strikes. The men's leaders with the greatest difficulty have generally restrained their followers, and only on a few occasions have they actually broken out of bounds. The leaders have always counselled patience, and have pointed to the rapidly approaching day when notice could be given to terminate the conciliation boards, when new conditions could be formulated, the demand for recognition of the Railwaymen's Union be made, and a free course could be

... up the extent of the past two years. That time has now come, and the leaders, who are already distrusted by the men, will be put on their trial. It is doubtful if, in the coming struggle, they will be much more than nominal leaders. From all parts of the country come indications of a growing spirit of unrest and of a determination to force matters to an issue. It is by no means improbable that the experience of 1907 will be repeated. Early in that year an agitation was begun by the employees for better conditions. Threats of a strike became louder and louder, until matters reached a climax in October of that year. The Board of Trade then intervened, and a compromise was arranged which was to cover a period of seven years. The agreement then reached was broken within two years, and the strike previously averted at great sacrifice by the companies came in 1911. During 1907, owing to labour agitation, the price of railway stocks steadily declined in spite of growing traffic returns. In January London and North Western ordinary stood at 154; by October it had fallen to 129. Midland deferred, in the same period, declined from 66 to 53, while Great Western dropped 20 points to 113. Many other similar losses occurred. The effect of the labour agitation and the strike was to reduce considerably the average value of British railway investments. In 1907 and 1911 the companies made concessions which were felt not to be justified and the question that has yet to be determined is whether the resistance of the railways to the extreme demands to be made will be any more successful than before. There can be no doubt that the men's organisation is stronger; there can be equally no doubt that the political situation is such as to encourage them. They count upon a sympathetic Government. Whatever may happen, the railways are to be attacked as never before, and it cannot be said that the omens are favourable.

### THE BOARD OF TRADE REPORT ON THE AISGILL ACCIDENT.

The report by Major J. W. Pringle, R.E., into the Aisgill accident, printed in our last issue, was published with exemplary promptitude. It cannot be said that any time was lost by anyone. Owing to the inquiry having been a public one except on the first day, the evidence recorded had all been anticipated, and Major Pringle acknowledged handsomely, as being certainly praiseworthy, the straightforward manner in which the men concerned made their statements in spite of this publicity. As is now well known, the cause of the collision was the neglect of driver Caudle to keep any look-out after being aware that he had passed a number of signals without noticing them. "Here," writes Major Pringle, "in my opinion, was the critical point in the journey. Asked what was his duty in the circumstances, Caudle replied that he should have gone ahead cautiously enough to stop clear of any obstruction. . . . Instead of immediately reducing speed, and devoting his whole attention to observing the road, from whichever side of the footplate presented the best opportunity, he watched the fireman doing his work. It was possible, on a clear night as this was, to have seen the tail and near side lights of the standing train at a distance of 200 yards, at all events from the fireman's side. Caudle was not on the look-out, and did not see them. With so much warning he would have perceived the collision even without any previous reduction of speed, by the prompt application of the continuous brake." The smallness of the coal was the cause of the first train stopping with its heavier load, but such a stop might have happened for many other reasons; for example, as Major Pringle observes, by "the use of the communication cord by passengers." Singularly enough this was the very cause of an accident that hap-

pened at Liverpool five days after the report was submitted. That the coal was of good quality though small is proved by the second train having attained a speed of 30 miles an hour within half a mile of the summit of a 1 in 100 incline three miles long. The report does not seriously blame any other of the company's servants except for minor *laches*, all of which, like the stoppage of the first train, contributed more or less to the lamentable result. Major Pringle's conclusion and recommendations will no doubt receive all the attention they so well deserve. It is comforting to know that the assertion that material rendered non-inflammable is not durable is met by the experience on Brunel's old timber viaducts in Cornwall, some of which are still standing. Sir Bradford Leslie (who was mainly instrumental in their erection) wrote to Major Pringle pointing out that these structures, built of "Burnettized" (chloride of zinc) material have proved immune from fire since their erection fifty to sixty years ago, and that the process of fire-proofing cannot therefore have had any ill effect upon the life of the timber or upon the iron bolts used as fastenings. Unlike some accidents, the cause of the Aisgill collision was clearly due to the weakness of human nature, and as time goes on such weakness will be effectually guarded against if it cannot be eliminated. Major Pringle's most important statements are his last two paragraphs. He again strongly urges the desirability of employing electricity as the standard illuminant, but he observes that on account of the expense it cannot be expected that all gas-lighted vehicles can be replaced at once. Railway directors will not be disposed to dispute his contention in favour of the policy of constructing all new stock with electric lighting, and of replacing as early as possible the existing gas-lighted coaches on main line and express services. The tables appended to the report show that during the three years ended August 31 last the percentage throughout the United Kingdom of coaching vehicles electrically lighted has risen from 19.8 to 21.9. It is well-known that the reason why greater progress has not been made is because of a difference of opinion as to the relative safety of gas and electricity. This divergence is based not only upon practice in this country but abroad as well. That the matter is not a financial one is shown by the fact that the percentages furnished by Major Pringle are headed in England by the South Eastern and Chatham. This company's electrically-lighted vehicles comprise so high a figure as 61.7 of its stock, the next highest British company being the London and South Western with 61.7. More impressive still are the figures for the Great Northern Railway of Ireland, viz., 96.5. Major Pringle's reiterated plea for electric lighting should carry great weight on account of the analysis he gives of train fires following collisions during the past five years. If it had been given due publicity in the daily newspapers the final sentence penned by the Inspector should serve to silence those writers who were recently engaged in libelling the Midland Company by stating that it had done nothing to carry out the recommendations made by the Board of Trade after the Hawes Junction accident.

**North Eastern Railway Enterprise at Middlesbrough.** In their Parliamentary Bill the North Eastern Railway Company, in co-operation with the Local Conservancy Commission, are seeking powers to construct, in the lower reaches of the river, on the south bank, between Grangetown and the Breakwater, a deep-water quay, 200 ft. in length, where ships can arrive and depart in all states of the tide. The quay will be thoroughly equipped with plant and buildings, and connected with the North Eastern system by a new line of railway, which will make a junction close to Grangetown station. It will bring the port at Middlesbrough, as regards passenger facilities, into line with Antwerp, and Hull, and the port of London.



# MONEY AND STOCK MARKETS.

SETTLEMENT DAYS.					
Mines .....	Dec.	8	Mines.....	Dec.	1
General .....	"	7	General .....	"	1
Mines .....	"	1	Mines.....	"	1
General .....	"	1	General .....	"	1
Mines .....	"	27	Mines.....	"	27
General .....	"	27	General .....	"	27
Mines .....	"	13	Mines.....	"	13
General .....	"	13	General .....	"	13

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Last Year.
Bank of China and Tientsin	3,000,000	3,000,000	3,000,000
Total Resources	2,274,450	2,274,450	2,274,450
Proportion of Deposits	2,274,450	2,274,450	2,274,450
to Establishments	54.38 p.c.	54.38 p.c.	54.38 p.c.
Notes in Circulation	28,780,800	28,780,800	28,780,800
Bank Rate	5 p.c.	5 p.c.	5 p.c.
Open Market Discount	5 p.c.	5 p.c.	5 p.c.
Bankers' Clearing House	354,580,000	354,580,000	354,580,000
Silver in Circulation	200,000,000	200,000,000	200,000,000
Consols (account)	72 1/2	72 1/2	72 1/2
French 3 per cent. (acc.)	84 1/2	84 1/2	84 1/2
Paris Cheque exchange	25 1/2	25 1/2	25 1/2
New York exchange	32 1/2	32 1/2	32 1/2
Rio de Janeiro exchange	11 1/2	11 1/2	11 1/2
Valparaiso 90-day exch'e	9 1/2	9 1/2	9 1/2
Canton exchange	1 1/2	1 1/2	1 1/2
Hong Kong transfers	15 1/2	15 1/2	15 1/2
Shanghai transfers	28 7/8	28 7/8	28 7/8
BANKS ESTD. 1910	3 1/2	3 1/2	3 1/2
TIENTSIN 1910	3 1/2	3 1/2	3 1/2
ASS. 1910	3 1/2	3 1/2	3 1/2
Oct. 14, 1909	3 1/2	3 1/2	3 1/2
Oct. 14, 1909	3 1/2	3 1/2	3 1/2
Oct. 21, 1909	3 1/2	3 1/2	3 1/2
Dec. 9, 1909	3 1/2	3 1/2	3 1/2
Jan. 5, 1910	3 1/2	3 1/2	3 1/2

This week, the figures of the Bank Return reveal a movement not very easy to interpret. A sum of £1,058,000 was received from abroad, almost the whole of which was in bars, and only £10,000 was taken away, but the amount of coin and bullion is reduced by £699,785, so that £1,757,785 has been withdrawn for use within the kingdom. This seems a large sum to be absorbed for purposes of everyday transactions in coin, and it is possible that some of the joint-stock banks are adding to the amount in gold they hold as reserve. The active note circulation also expanded more than was anticipated, the increase being £1,000,000. The position of the Bank remains strong, but the way in which coin and bullion has been depleted during the past week is the reverse of reassuring. The market had almost redeemed its indebtedness to the Bank, £1,073,000 having been repaid, as is seen by the decline of Other Securities by that amount, discounts were therefore inclined towards ease on Thursday morning. When, however, the Bank Return was published, rates immediately hardened, especially as the market was given to understand that January bills would not be discounted by the Bank of England at less than  $\frac{1}{2}$  per cent. above the Bank Rate. Large sums were disbursed by the Government, Public Deposits being less by £1,980,000. Other Deposits are consequently only £833,000 less. Government Securities remain the same and the result of all changes has been to improve the ratio of Reserve to the liabilities of the Bank by three-quarters of 1 per cent., bringing it to the high figure of 55.1 per cent.

The trend of events on the Stock Exchange has not been favourable to higher prices and attempts to raise quota-



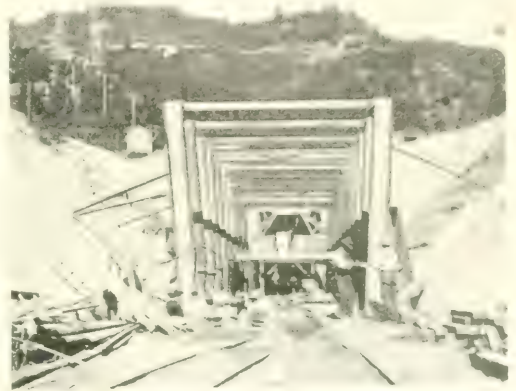
### AN AMERICAN HEAVY ELECTRIC RAILWAY.

A new electric interurban railway, designed for heavy service, which was opened for traffic in September last, contains some specially interesting features. The line, called the Oakland, Antioch and Eastern Railway, runs from Oakland, San Francisco, in a north-eastern direction for 93 miles to Sacramento. The traffic for which the line is designed is not only heavy but will be run at high speed, so that the service is practically equal to that of standard steam railways. The passenger trains perform the journey in 3½ hours, including the passage by ferry across San Francisco Bay. There is a section of heavy gradients east of Oakland 13 miles in length, where the running time is only 25 miles per hour, but on a 20-mile level stretch near Sacramento the speed reaches 50 or 60 miles per hour.

The track is laid with 70-lb. titanium steel rails, and an approved automatic block signal system is installed. In Oakland there is a well-equipped freight and passenger station. The rolling stock consists of steel day coaches and parlour buffet observation cars, all fitted with multiple unit control for operation in trains. A few trailer cars are also provided. For the freight service electric locomotives are employed, and they haul standard steam railway freight cars. The overhead work consists of a familiar type of catenary suspension. Direct current at 1,200 volts pressure is supplied to the trolley wire from existing hydro-electric stations in the vicinity. A few miles east of Oakland the route encounters a spur of the Coast Range, the elevation of which at this point is 1,361 feet. The railway pierces the ridge at a height of about 842 feet through a tunnel 3,413 feet long. This is said to be the longest tunnel yet constructed in the United States for the use of an electric railway. In excavating the tunnel the spoil was taken away by electric motors supplied with current from an overhead wire. It was nearly all used in connection with deep fills situated at either end of the tunnel. Because of the character of the rock it was necessary to use timber shoring along nearly the entire length of the tunnel. At the Oakland end slides occurred after wet weather, and the bottom of the excavation tended to bulge upwards. The expedient was adopted of lengthening the tunnel by the construction of a tubular shell extended beyond the surface of the mountains to a point where little or no danger existed from slides or bulging action. Embedded in the concrete is a heavy framework of steel I-beams so arranged and proportioned as to provide suitable resistance against the pressures of the surrounding material. The bottom of the tube consists of a heavy system of cross-

beams, which are supported by the tunnel and water to the water company, and the largest part of this water comes from the tunnel.

One of the most interesting features is the undergrade crossing of the tracks of the Southern Pacific and the Atchison, Topeka and Santa Fe Railways near a point where the route passes north across an arm of Suisun Bay. There is a great deal of low flat land in the neighbourhood which is largely cut up into islands. The tracks of both the Santa Fe and the Southern Pacific Railways are somewhat elevated above the level of the water. In order to permit the electric line



West Portal of Shepherd's Pass Tunnel.

to pass the steam roads it was necessary that the former should rise above or fall below the level of the latter. It was decided to pass beneath. The electric line was carried down on a 1 per cent. gradient, followed by a 1.76 per cent. descent. Then for a short distance the roadbed was made level. This stretch carries the line beneath the two railroads, which at this point are close together and parallel. Then by a 2 per cent. gradient, the track is carried up to a level a little above that of the water. All the lower portion of the trench lies below the line of saturation, so that it was



Electric Locomotive for Goods Service, Oakland, Antioch and Eastern Railway, California.

concrete. It will be seen that some of the uprights lean out at their upper ends. The uprights are connected at the top by 12-inch I-beams, bracing the structure together.

Under the right-of-way agreement the railroad is obliged to deliver to a water company all the water which flows from the tunnel.

excluding the water from the sides and bottom. The length of the concrete trench is 1,500 feet. The side walls are 12 inches thick at the approaches, but where the trench sinks beneath the water level the thickness increases to 15 inches. The walls are reinforced with 7-inch steel bars arranged vertically.



the railway is a very important point. The railway is a very important point.

The railway is a very important point. The railway is a very important point. The railway is a very important point.

The first 12 miles of this railway were constructed by men in the employment of the railway company. Afterwards the tunnel and heavy construction work were placed in charge of the J. G. White Engineering Corporation, of New York.

### UNHAPPY PREDICAMENT OF RUSSIAN RAILWAY COMPANIES.

Since the railways in Russia are owned and worked by the State, there are many privately owned lines. These Russian railway companies have been complaining bitterly of the narrow market to which they are restricted by the formation of syndicates or trusts. Those that have been formed openly in Russia deal in metals, in locomotive engines, in rolling stock, in drawn wire, in coal and coke, in cement, and in mineral oil. These pretty well cover the whole field of railway requirements. The companies are not allowed to deal with others, either in Russia or in other countries, and it naturally follows that this absence of competition tells detrimentally on the quality of the products. Moreover, there exists no incentive to improvement of any kind. The companies, having no choice in the matter, are entirely at the mercy of the rings, and have to accept whatever they choose to supply. They are practically debarred from any improvement in such important materials as rails, tyres, &c., on which depend the safety of their passengers and the durability of their permanent way and rolling stock. The rings do not recognise any time limits to their contracts, and it is impossible to insist on the insertion of such stipulations, as they refuse to allow any punitive clauses to be inserted.

Prices are continually being raised, indeed in some cases they are higher than those of foreign goods even after these have paid the high custom dues. It has also happened that certain firms, after joining a ring, have ceased to manufacture articles which they found no difficulty in producing before they entered the magic circle. It is the fear of such rings or combinations that has led to the establishment of huge locomotive works, and to the building of rails and rolling stock. This fear was also alleged as a reason for establishing works departments and Government stores departments. It is evident, however, that rings could not be formed except with the concurrence of those having the placing of orders; for there is always sufficient competition in all trades if it be allowed

### ORGANISATION FOR PREVENTING AND HANDLING TRAIN WRECKS.

The Pennsylvania Railroad Company has, during the past year, devoted particular attention to perfecting its organisation for safety. Special and intimate study is now being given to every element of working which might lead even indirectly to an accident.

We are indebted to the management, which follows up very closely all questions of safety, for the following brief indication of their methods. On each division there is a regular written programme for handling wrecks. A designated officer of each department goes to the scene of each accident and a joint investigation is made to determine the cause. The results of the investigation are embodied in detailed reports. These reports pass through the hands of the superintendent, the general superintendent and the general manager. The superintendent takes such action to prevent repetition as may be deemed necessary. The general superintendent checks the work of the superintendent, and finally the general manager, through his accident bureau, makes such deductions and draws such conclusions as may be warranted by the facts shown in the reports. This is followed by recommendations which may involve the improvement of machinery, change in methods of operation, or the efficiency and discipline of employees.

All reports, both of personal injuries and train accidents, are tabulated and summarised. These summaries, issued quarterly and yearly, provide the officers with data suggestive of remedial measures. The summaries are also distributed among the men.

The motive power department is provided with full and complete information as to the number and cost of accidents resulting from motive power defects. Constant and elaborate study is made by this department of the condition of material and the practicability of designs. Changes in unsatisfactory equipment are being continually made. What is said of the motive power department applies also to the maintenance of way department.

The operating department is furnished with figures showing the number and cost of accidents resulting from negligence and inefficiency on the part of operating employees, and such measures are taken as may be suggested by the statistics.

In addition, the general manager has a Discipline Committee, composed of three experienced train masters, who have devoted their time since 1911 to the examination of discipline records of employees in all departments. This committee makes recommendations regarding the condition of records and the manner in which the records are kept. They call attention to the cases of men whose records indicate that they are below a reasonable standard of efficiency, special attention being paid to violations of safety regulations. It is the purpose of the management to place itself in a position to be able to determine, from the written records of the men, whether they are rendering safe and efficient service.

The Train Rules Committee is constantly passing upon proposed rules and regulations and changes in the present rules and regulations. The Dispatching Committee is composed of five practical subordinate officers, who have been examining into methods of operation on all divisions of the railroad for more than four years. This committee at frequent intervals visits the division headquarters and goes over with the superintendent, division operator, train master and dispatchers all questions relating to the interpretation and application of rules and regulations pertaining to the movement of trains. Any cases of mis-interpretation or failure to apply the rules in the prescribed manner are promptly corrected, and such other recommendations are made as may be suggested by the interviews with the divisional officials. The work of the committee is intended to bring about uniformity as well as safety in the introduction of new rules and the application and interpretation of the old rules.

On each division there are one or more safety committees who inspect the road, yards and shops to see that the equipment is in safe condition and that machines are properly maintained. There are one or more efficiency inspectors on each division, who make tests on the observance of the rules and regulations of the company. An average of approximately 500,000 observations and tests are made monthly.

Briefly stated, the management is making a concerted effort to develop the operation of the road to the highest possible standard of efficiency and safety, and to this end all departments are co-operating.

# NEW 4-4-0 SUPERHEATER LOCOMOTIVE FOR THE GREAT CENTRAL. LANCASHIRE AND YORKSHIRE RAILWAY SCHOOL OF SIGNALLING

Mr. J. G. Robinson, chief mechanical engineer to the Great Central Railway, has constructed a new 4-4-0 superheater locomotive. It is a development of the rebuilt superheater 4-4-0 engine, and is intended for the various services. It is named after the chairman of the company, Sir Alexander Henderson. An illustration of the engine and tender, with a copy of their construction appended.

The prizes and certificates which are given each year in connection with the Lancashire and Yorkshire Company's School of Signalling were presented on December 3 to the successful pupils by Mr. Watson, General Manager, and Mr. Davies, Chief Mechanical Engineer. Mr. Watson presented the prizes to the pupils, and Mr. Davies presented the certificates.

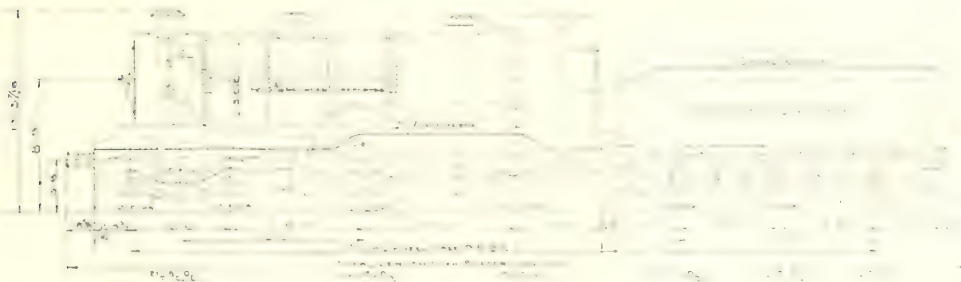


Mr. J. G. Robinson's New 4-4-0 Superheater Locomotive

Cylinders	2 ft. 6 in. x 2 ft. 6 in.
Piston valves	14 in. dia.
Connecting rods	21 in. 14 in. 14 in.
Wheels—Coupled	4 ft. 6 in. dia.
Tender	4 ft. 6 in. dia.
Boiler—Length of barrel	12 ft. 3 in.
Diameter of barrel	5 ft. 3 in.
Firebox—Length of barrel	8 ft. 6 in.
Tubes, steel (outside)	175 1/2 in. dia.
Tubes, steel (inside)	24 1/2 in. dia.
Wheelbase—Rigid	10 ft.
Total	25 ft. 3 in.
Superheater—Robinson's Type	

1913-14 over 1,000 students are attending the various classes, which cover every phase of block working. The school contains one of the finest model railways in the country, on which every known device for the safe working of railways is exhibited.

Mr. Watson expressed his pleasure at the appreciation shown by all grades of the staff of the facilities which the school provides for the extension of their knowledge of railway working. He stated that an acquaintance with the exact letter of the rules was no doubt very good so far as it went, but he thought it better still for every man to have a knowledge of the principles which underlay the rules. By attending



Dimensions of Engine and Tender

Boiler—Outside Length	25 ft. 3 in.
Tubes	175 1/2 in. dia.
Superheater	24 1/2 in. dia.
Total	25 ft. 3 in.
Weight in running order	40 tons
On bogie wheels	39 .. 12 ..
On coupled wheels	61 ..
Total of engine	100 ..
Tender	100 ..
Total of engine and tender	200 ..
Maximum tractive force	20,000 lb.
Fuel capacity	10 tons
Coal capacity	10 tons
Boiler pressure	180 lb. per sq. in.

the classes, where very free discussion was invited, a first-hand knowledge was obtained of the results intended to be achieved by the framing of the rules, and a man was thus fitted to form a better judgment of what was required to be done in case of emergency, and to act promptly and effectively. It is of interest to note that 90 per cent. of the students who attended the classes during the last session were successful in obtaining certificates of proficiency.

That the efforts of the lecturer, Mr. Davies, have been appreciated was demonstrated at the conclusion of the prize distribution, when Mr. Watson, on behalf of the students, presented him with a gold watch and pendant, suitably inscribed, as a mark of that appreciation and as a memento of the happy associations of students and lecturer.





the amount of the cash paid for the above R.O.P. Company will correspondingly diminish.

The agreement as to guaranteed traffic is that for the first and a half years from January 1, 1913, to June 30, 1915, the Argentine Railway Company is to guarantee the amount of traffic to and from the railways under its control or management in addition to the traffic which we received from the railways in the calendar year 1912, as well as an amount which we have guaranteed to other railroads. At the latter period the minimum is fixed at 187,500 per cent., and it gradually rises to 200 per cent. in 1915. In 1914 the agreement also provides that the net value of such traffic in any year shall be less than the minimum required for that year, the balance shall be paid in cash, the Argentine Railway Company being entitled, whenever the net value of the guaranteed traffic shall in any year exceed the minimum, to receive such excess or such part thereof as may be necessary to make good any shortfalls in respect of the deficiency in any previous year. The Argentine Railway Company will also share, to the extent of 80 per cent., in the amount by which the net revenue of the company exceeds the amount required for payment of the company's debenture charges and interest on its income stocks, including the scheduled interest payable on the ordinary income stock, which, for the first two and a half years from January 1, 1913, is fixed at 2½ per cent. and rises every two years thereafter by one-half per cent. until the rate reaches 5 per cent., as from July 1, 1923. The liability of the Argentine Railway under its guarantee is limited to the amounts I have named in respect of new traffic to be introduced by them, or the corresponding cash.

the country's economy and the country's property in the Argentine and the other important countries. The country's economy and the country's property in the Argentine and the other important countries. The country's economy and the country's property in the Argentine and the other important countries.

hopeful nature in regard to the crops, and if conditions remain favourable for a few weeks more, and the maize crop, which is harvested later than the other cereals, is also a success, we have a very prosperous year ahead. Since June 30, 1913, our receipts have been record ones. For the twenty-two weeks to

pared with £837,790 earned by the three railways during the corresponding weeks of last year, whilst the estimated net profit for the first four months of the current financial year, that is from July 1 to October 31, has shown a remarkable increase—evidence that what your directors felt convinced would follow the arrangements approved last year is being experienced in greater degree than during the first half-year of the new organisation. Although I have abstained from an analysis of the details of the accounts, I have endeavoured to make reference to all matters of importance, but if any of those present desire to put questions we will endeavour to fully reply. I now beg to move, "That the report of the directors and the statement of accounts now presented be and the same are hereby received and adopted."

Mr. W. H. SKEL said he quite understood that the Luskos was in a state of transition, and for that reason he could quite understand that the company had not got into its stride yet; but there was one statement made in that building about three weeks ago which was rather of a disquieting nature—namely, that a little quarrel had broken out between the companies over some traffic. Of course, the directors must defend their own position, but as some who were present were shareholders in both the companies, it was rather a poor thing, he thought, for them to fight each other.

Mr. H. W. MARSHALL said the chairman had referred to the surplus, which specified that this would be deducted from previous sums, and the payment to the Argentine Company would become less and less in proportion. Was that so?

Mr. OGILVIE said the chairman had told them that the net receipts for the first four months of the current year showed a considerable increase over the corresponding period of last year; would it be wise for him to ask what the actual figures were for those four months?

week-end. Since the gross receipts showed £298,405, compared with £287,750 earned by the three railways in the corresponding weeks of last year; this showed an increase of £10,655, and the estimate anticipated that this at least would be the net revenue. He did not wish to go further than that at present. That showed, however, that the estimate which had made of the net profit for the year 1913, and which had been made, and in fact, exceeded. That was most encouraging, indicating, as it did, that the calculations on which the scheme was based were sound, and gave every expectation that the interest scheduled on the income stock would be forthcoming, and they would be disappointed if they were not received. Beyond that he would not go, as it would pass the nature of prophecy.

The resolution was then put and carried unanimously.

Mr. PHILIP NOKMAN proposed the reelection of the chairman as a director.

Mr. RICHARD POPKISS seconded the resolution, which was carried unanimously.

The CHAIRMAN said he thanked the shareholders very much for his reelection.

Mr. W. H. SKEEL moved the re-appointment of Messrs. Turcan and Youngs and Co. as auditors of the company, at a remuneration of £200.

Mr. MARSHALL seconded, and the motion was agreed to.

Mr. MARCUS VAN RAHLE said before they parted he would like to record a vote of thanks to the chairman and the board. He thought the company's position was good in every way, and, in fact, better than ever before, and he looked on the future as being encouraging. He thought that the Cordoba Central and the Argentine Railway Companies had done very good business, because the development referred to was only in its very beginning; but the way in which it had been talked about was simply absurd.

The vote of thanks was duly seconded, and carried unanimously.

The CHAIRMAN briefly responded, but took occasion to remark that he thought the vote of thanks ought to have included Mr. Houghton, who had helped to develop the undertaking into a leading trunk line.

The proceedings then terminated.

## PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

In their seventy-third annual report the directors state that after providing for the normal depreciation, amounting to £450,000, and the insurance charges, which are very slight, and after further strengthening the reserve as explained in a subsequent paragraph, the balance amounts to £359,234, including £68,234 carried forward to the next account. The distribution for the year in dividend and bonus will be at the rate of 5 per cent. on the preferred stock, and 10 per cent. on the common stock, with a bonus of 5 per cent. on the latter.

### FLEET.

In the last annual report it was stated that the company had under construction 95,000 tons of shipping. Since that date two additional steamers of the K class (10,500 tons intermediate vessels for the Indian trade) have been contracted for with Messrs. Cammell Laird and Co., and appear in the list in the names of Karmala and Kalyan. Of the above-mentioned tonnage, three of the B class, which are ships constructed for the Cape line to Australia, viz., the Ballarat, Beltana and the Barmah, are now being built, leaving the Berrima and Borda still to be completed. Of the K steamers the first named, the Khiva, will be delivered next month, and there will be five other ships of the same class to follow in rotation. The Kaisar-i-Hind, a special steamer for the Bombay line, will be ready to sail by the end of the year.

The Ceylon, Nanking, and Wakool have been sold during the year at prices which show a satisfactory surplus on their book value. During the year the mail service and general services have been carried on with the usual success, and no reports without any serious accident.

### STATEMENT OF ACCOUNTS.

A change has been made in rendering the accounts of the present year. For the first time the gross revenue of the company is shown. It amounts to £2,600,000 and the mail money, £305,000, being added, the total is £5,208,048. From this there is deducted the external charges, never shown hitherto, amounting to the large figure of £1,320,876, which shows the amount held over for the year, and extends to before the net revenue is secured.

### STANDARD ACCOUNTING CONVENTION.

The change of method in rendering accounts to shipping in-

fund requires explanation. Hitherto the proprietors have always sanctioned the policy of providing extra depreciation in any year in which there has been a margin to spare, after providing the customary dividend. In the present year this has not been done, but the ordinary 5 per cent. depreciation has been charged in the general account, while an appropriation of £200,000 has been carried to the credit of the now so-called contingent fund, which will operate generally in future to dividend adjustment purposes and exceptional depreciation. The reserve fund of £1,250,000 will be increased by appropriating the premium gained in the allotment of the new stock, viz., £123,725. This is not profit in a true sense, but an aggregation of capital.

### MAIL CONTRACT.

In ordinary circumstances the present mail contract, which commenced in February, 1908, would have terminated at the end of January, 1915, but by an arrangement made with the Postmaster-General at the beginning of this year the contract was extended for twelve months, and does not come to an end until January, 1916. It may fairly be presumed that the Post Office considered the present contract an advantageous one in view of the great increase in the cost of navigation and the immense development of postal work carried out by the company. Up to the end of January, 1908, the speeds required by contract were as follows:

Bombay	12½ knots.	New contract, February, 1908, 1911
Shanghai	11½ do.	do. 14½
Adelaide	12½ do.	do. 15½

In order to improve the mail services to India, China and Australia, the company have built in the last ten years four new mail steamers at a cost of £4,000,000. But the subsidy received by the company for the period of contract ended in January, 1908, was £350,000, whereas the present subsidy, which commenced in February, 1908, is only £305,000. In ten years the speed of the mail service has been progressively increased, roughly speaking, about 30 per cent., and the bulk of mails and parcels now carried is almost incalculable, while the subsidy has been lowered by £45,000 per annum. It is a fact pertinent to the company's work generally, but mainly to the mail service, that the coal bill in 1908 amounted to £636,880, while in the present year it amounts to £620,095.

### SUMMARY.

In pointing to the accounts of the present year, it may be mentioned that the company's net earnings referred to in this report exceeded those of last year by £337,540. There were fewer transports employed, and owing to the sale of the Vectis, fewer pleasure cruises, although the voyages actually undertaken in this way did very well, and in these cases there was, therefore, a falling-off from the receipts of the previous year. But there were also a greater number of non-mail sailings, so that the improvement in freight rates was not all round so considerable as might be supposed. There was a brisk demand throughout the year in outward freights; and, unfortunately, not by any means the same homeward demand as in the previous year. The Australian trade was especially disappointing in this respect, chiefly owing to a decrease in the amount of refrigerated cargo. The passenger business on the India and China lines has slightly increased during the year, and, contrary to previous experience, in first rather than in second class passengers. The Australian mail line has not shown the expansion anticipated, but, on the other hand, the Cape-Australian line has done well.

Turning to the expenditure side of the account, the fairest way to look at the difference between the last two years is to leave out the insurance charges and the extra depreciation of last year, and from that point of view it is found that the excess charges in the present year are almost equal to the additional earnings for the year. This is accounted for by the additional voyages to a certain extent, but the fact remains that in every department—coal wages, victualling and repairs—the expenditure has risen to a serious point, and the directors feel that it is likely to remain at this high level.

The present account benefits through the absence of insurance losses. Taking this state of affairs into consideration, and looking to the future, it seems not improbable that the company may have to face a decline in freights and lesser profits next year. It is true that the difference between good and bad times does not make to the same extent either for profit or loss in the case of mail steamers and liners as in that of purely cargo vessels. Seldom has the rise or fall in freights in this company amounted to more than £100,000 or £70,000 in the course of a single year, but it has been known in more than one year to fall nearly £150,000, a colossal deficit for a mail company. The directors do not by any means take a gloomy view of the

future, but they feel deep cause for anxiety in the face of expenditure, which is, to a great extent, beyond their control, and they have also before them the problem of a new road contract, which is always a critical period in the company's history. Looking to these facts, and that there is already a feeling of depression in the freight market, the directors consider that in order to secure as far as possible the present satisfactory level of dividend the steps they have taken in promoting a contingent fund are entirely in the best interests of the proprietors.

#### DIVIDENDS.

The directors recommend the following dividends: viz.:—On the preferred stock at the rate of  $2\frac{1}{2}$  per cent., making with the interim payment in May, a total distribution for the year of 5 per cent.; on the deferred stock at the rate of 6 per cent., and a bonus of 5 per cent., making, with the dividend in May of  $3\frac{1}{2}$  per cent., a distribution of 15 per cent. on this stock for the year. The dividends and bonus now recommended will be payable on and after December 18.

#### PERUVIAN CORPORATION.

The report for the financial year ended June 30, 1913, states that the accounts show a profit for the year of £479,401 after deducting the usual charges and the debenture interest at the reduced rate of 4 per cent., in accordance with the resolution of the meeting of debenture-holders on March 12, 1896. In the net income from the railways and navigation there is a decrease of £3,596 and from guano a decrease of £27,072 as compared with the year ended June 30, 1912. To the above-mentioned profit of £379,401 has to be added the sum of £58,203 brought forward from last year, making together a total of £437,604. Deducting the amounts now debited to net revenue, namely, £54,000 for amortisation of corporation debentures on February 1 last, £10,599 for depreciation of securities, £7,000 written off in respect of coal explorations, £4,000 set aside towards the insurance fund of the lake steamers, and £919 balance of income-tax, making together the sum of £76,518, there remains a balance of £361,086 at the credit of net revenue account at June 30, 1913. The directors propose to place £25,000 to reserve, and will submit to the general meeting on December 18 a resolution for the payment of a dividend of £2 58. per cent. on the preference stock; and, in accordance with the requirements of the above-mentioned resolutions of March 12, 1896, the board will, as a condition precedent to the payment of such dividend, set aside and appropriate in cash on a separate account at the bankers of the corporation a sum sufficient to pay the additional debenture interest of  $\frac{1}{2}$  per cent., making the full interest of 6 per cent. Such additional interest, in conformity with the same resolutions, will be "distributed and paid on the coupons next falling due after such appropriation shall have been made"—that is to say, on the coupon of April 1, 1914. After placing to reserve the sum of £25,000, as above-mentioned, setting aside the additional  $\frac{1}{2}$  per cent. debenture interest (£108,600), and deducting the dividend proposed to be paid on the preference stock, amounting this year to £167,704, there will remain a balance of £60,382 to be carried forward.

#### BENGAL-NAGPUR RAILWAY.

The accounts for the quarter ending March 31, 1914, show that on January 1, 1914, the revised contract with the Secretary of State till December 31, 1910, will come into force. In order to introduce the new system, accounts have been prepared for the quarter ended March 31, 1913. This change necessarily involves a comparison of the results of the two periods. During the quarter ending March 31, 1913, the gross revenue was Rs. 1,278,800, less debenture interest, 3½ per cent.; new rate of interest, 3½ per cent. The amount of interest paid on debentures during the quarter was Rs. 45,278. During the quarter this has been increased by advances under the Secretary of State's contracts with the company relating to the extensions amounting to £73,003, making the total capital raised in March, £30,387,741. In addition, the Secretary of State has made other advances to the company to the extent of £2,500,849. The capital expenditure during the quarter was mainly on additional rolling stock, and improvements to the main line and to the workshops of Khargpur. Comparing the figures for the quarter ending March 31 with those for the corresponding quarter of 1912, while the gross revenues have increased by Rs. 108,544, the interest on working expenses was Rs. 7,18,000, or 11 per cent. of the gross revenue, as against

Rs. 7,20,000, or 7 per cent. The increase in working expenses is mainly due to higher expenditures on the maintenance of the main line, and on the expenditure on the maintenance of the rolling stock. The interest on capital and on the working expenses was Rs. 1,08,544, or 8 per cent. of the gross revenue, as against Rs. 1,00,000, or 7 per cent. of the gross revenue, in the corresponding quarter of 1912. The total number of passengers carried increased by 10,000, or about 8 per cent. The total number of freight tonnage increased by Rs. 4,51,000, or about 10 per cent. The increase in number appears on all classes of traffic, and is due to the development of traffic. There was a decrease in earnings in the first and second class, as the corresponding quarter included the Delhi-Dumrao traffic. During the year ending March 31, 1913, paid out of surplus profits an extra dividend of 1 per cent. and a bonus of 1 per cent. on the capital contributed by the year 1910, and, in addition to these payments, a supplementary dividend of one-half per cent. for the quarter ended March 31, 1913. These payments absorbed £75,000 (less income-tax), leaving £1,02,387,741, or 10 per cent. of the gross revenue. The distribution from surplus profits for the year ending March 31, 1914, will be dealt with, as hitherto, at the next ordinary general meeting. The directors regret to announce the deaths of two of their colleagues. Lord Lawrence, who had been a director since the formation of the company in 1887, died on August 22, 1913, and Mr. J. Manson, who had been managing director since November, 1911, and previously was for six years agent of the company in India, died on September 25, 1913. The board have decided to ask the stockholders for powers to increase the share capital by an amount of £1,000,000, bringing the total authorised capital up to £4,000,000. The board will only issue this additional capital in consultation with the Secretary of State if and when occasion shall arise. There is, however, no intention of making any immediate issue.

#### THE INTEROCEANIC RAILWAY OF MEXICO.

The capital is divided into four classes, viz.:—1,000,000 shares of £2 50. each, or £2,000,000; 1,000,000 shares of £1 50. each, or £1,500,000; 1,000,000 shares of £1 00. each, or £1,000,000; and 1,000,000 shares of £0 50. each, or £500,000. The total authorised capital is £5,000,000. The capital is divided into four classes, viz.:—1,000,000 shares of £2 50. each, or £2,000,000; 1,000,000 shares of £1 50. each, or £1,500,000; 1,000,000 shares of £1 00. each, or £1,000,000; and 1,000,000 shares of £0 50. each, or £500,000. The total authorised capital is £5,000,000.

The working results for the quarter ending March 31, 1914, are as follows:—Gross revenue, Rs. 1,278,800; less debenture interest, Rs. 45,278; net revenue, Rs. 1,233,522. To this sum of £322,721 must be added balance of interest account and transfer fees, £8,136; making the total net revenue £330,857. From this is deducted the cost of Mexican Southern Railway, £20,000; rent of Mexican Southern Railway, £83,700; cost of surveys, £1,874; interest on 4 per cent. debenture stock, £4,000; interest on 7 per cent. debenture stock, £58,500; interest on 7 per cent. B debenture stock, £10,431; total, £226,505; leaving a balance of £104,292. Out of this the directors have transferred £33,085 to reserve account to protect advances made under the agreement with the Vera Cruz Terminal Company. The disposable balance remaining is £71,206, which, with the £3,470 already standing at the credit of the first preference stockholders will enable the following payments:—£3 108. per cent., less income tax, on the 7 per cent. B debenture stock, making, with the interim payment made on May 30 last, £7 per cent. for the year; a dividend of £4 per cent., less income tax, on the 4 per cent. stock, making, with the interim payment made on May 30 last, £4 per cent. for the year; a dividend of £2 245 to be carried forward to the credit of the first preference stockholders.

The number of passengers carried during the year was 1,000,000, or 10 per cent. of the gross revenue, as against 900,000, or 9 per cent. of the gross revenue, in the corresponding year of 1912. The total number of freight tonnage carried during the year was 1,000,000, or 10 per cent. of the gross revenue, as against 900,000, or 9 per cent. of the gross revenue, in the corresponding year of 1912. The total number of freight tonnage carried during the year was 1,000,000, or 10 per cent. of the gross revenue, as against 900,000, or 9 per cent. of the gross revenue, in the corresponding year of 1912.

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**Mexican Eastern Railway.**—The annual report states that as the company's railway is worked and managed by the Inter-American Railway of Mexico (Acapulco to Vera Cruz), under a lease dated December 7, 1913, separate accounts of its operation are not issued. The results of working for the twelve months ended June 30, 1914, as reported by the Inter-American Railway to be as under: Gross receipts, \$858,043; working expenses, \$535,887; net receipts, \$322,396, or in sterling, £32,385. Ratio of expenditure, 62.35 per cent. Oil fuel for locomotives having been adopted in place of coal, the 7 engines owned by the company have been converted to oil burning at the cost of the lessees. The use of oil fuel has necessitated the erection of an oil station at Orizaba, the net cost of which, viz., £35,020, has been charged to capital account.

ANTIOGASTINGUICHU AND BOLIVIA RAILWAY. —Dividends of 2½ per cent. on the 5 per cent. cumulative preference stock and 2½ per cent. on the preferred ordinary stock, payable January 1, making 5 per cent. for the year on both stocks, have been declared.

INTER-OCEANIC RAILWAY OF MEXICO. The board have decided, after placing £33,085 to reserve, to pay out of the revenue for the year ended June 30, 1913, £3 10s. per cent., less income-tax, on the seven per cent. B debenture stock, making, with the interim payment, £7 per cent. for the year, and to recommend payment of a dividend of £4 per cent., less income-tax, on the first preference stock. For the previous year the full dividend of 5 per cent. was paid on the first preference and 2 per cent. on the second preference stock.

The Grand Trunk Railway of Canada has issued the following statement for the month of October :—

Grand Trunk Railway Company of Canada.						
	Month of October			July 1 to October 31		
	1914.	1912	1913	1912	1913	
Carriage company	2,700,000	4,277,000	+ 1,577,000	2,252,750	3,103,500	+ 850,750
Expenses	3,570,000	5,570,700	+ 5,000	2,313,000	2,263,500	+ 46,500
Net profit	2,200,000	2,000,000	+ 200,000	1,427,500	1,839,500	+ 412,000
Canada Atlantic Railway Company.						
	Month of October			July 1 to October 31		
	1914.	1913	1913	1912	1913	
Carriage company	112,000	4,200,000	4,088,000	1,278,800	2,258,000	+ 979,200
Expenses	48,000	1,100,000	2,800	160,000	371,500	+ 261,500
Net profit	112,000	1,100,000	4,085,000	1,118,800	1,886,500	+ 767,700
Grand Trunk & Port R. Co. of Canada.						
	Month of October			July 1 to October 31		
	1914.	1913	1913	1912	1913	
Carriage company	1,117,000	1,124,000	+ 7,000	534,200	602,000	+ 67,800
Expenses	1,050,000	1,040,000	+ 10,000	444,000	470,000	+ 26,000
Net profit	2,700,000	1,084,000	1,077,000	44,200	132,000	+ 87,800
Detroit, Grand Haven and Milwaukee R. Co. of Canada.						
	Month of October			July 1 to October 31		
	1914.	1913	1913	1912	1913	
Carriage company	451,000	635,000	125,000	1,100,000	1,380,000	+ 280,000
Expenses	143,000	1,250,000	550	107,000	1,250,000	+ 1,143,000
Net profit	1,100,000	1,285,000	1,100,000	993,000	1,130,000	+ 137,000
Michigan Central R. Co.						
	Month of October			July 1 to October 31		
	1914.	1913	1913	1912	1913	
Carriage company	1,000,000	1,400,000	1,400,000	1,400,000	1,400,000	+ 0
Expenses	1,000,000	1,400,000	4,050,000	13,450,000	1,400,000	+ 12,050,000
Net profit	0	0	0	0	0	+ 0

The capacity of wagons on the Russian railways is felt acutely at the moment, which is one of conjuncture of good harvest and good business generally. At a conference on the subject At M. L. Selchikov made a report on the shortage of Russian railway wagons. He observed that the decrease had to a large extent been made up till recently by adding rather to the carrying capacity of the new wagons than by relatively increasing their number. But now, he stated, the limits of increased capacity have been reached. The estimate of new wagons required is 28,500 this year, 13,750 in 1904, 16,000 in 1905, 17,400 in 1906, and 18,000 in 1907 for the Treasury or Government railways. For the private lines the numbers are 13,800 in 1903, 7,500 in 1904, 10,000 in 1905, 10,000 in 1906, and 9,000 in 1907.

## NORTH EASTERN RAILWAY CONCILIATION BOARD.

issued from the general manager's office, the decisions of the conference held at York on October 21, 22, 30 and 31, and November 20, 21 and 22, on the conditions of service of the grades represented in the Conciliation Conference. Including the meetings of sub-committees, twenty-five meetings took place. Mr. W. Hudson, M.P., of the National Union of Railwaymen, was secretary to the men's side. The settlement arrived at will remain in force till December 31, 1916, and will take effect upon the expiration of Sir James Woodhouse's award on December 31 next.

The concessions substantially exceed in value the concessions made in any previous settlement on the North Eastern, either by conference or arbitrators' awards. The number of men covered by the settlement is just over 25,000—i.e., about half the staff employed by the company. It is interesting to note that this railway's staff are the first of railway employees to secure a nine hours' day.

The following is a short summary of the principal con-

Drivers, Motormen and Firemen—Hours reduced from 10 to 9 per shift and starting rate of wages increased 18. 6d. per week for firemen and 3s. per week for drivers and motormen. The bonus for working certain special trains discontinued, and fixed rates of pay instituted in lieu of giving higher pay. The existing bonus for working large engines to be abolished.

**Cleaners**—New scale of wages introduced giving 2s. per week advance to all cleaners over 18 years of age. **Carriage** **per shift.** **Shed Staff**—Advances of wages varying from 1s. per week and upwards, together with the reduction to standard hours of the varying hours (usually longer) now worked at different centres. **Carriage Lighters, Inclinemens** (in locomotive department), and **Electric Lamp Trimmers (Outdoor)**—2s. per week advance.

Signalmen—All 12 hour boxes reduced to 10 and improved scale both for wages and hours, increasing the number of eight-hour boxes and introducing *inter alia* a minimum wage of 25s. Assistant-Signalmen—Improved scales giving 1s. advance to Class 2. Signal Porters, Porter Signalmen—Hours reduced to 10 per shift and advances of wages for signal porters of 1s. to 2s. per week. Signal and Gate Lads—Hours reduced from 12 to 10 and number of eight hour lads increased. Wages increased by 1s. to 3s. Gate-men and Van Attendants—Wages advanced 1s. per week and payment for Sunday duty.

18. per week and hours reduced from 10 to 9 per day at seven

increased by 1s. or 2s. Rullymen - Present hours reduced from 60 to 54 or 57 per week. Wages increased by

18, or 38, to majority of men. Horse Shunters Hours reduced from 60 to 54 or 57 per week. Wages advanced by 18, or 28, per week. Capstamen Present hours reduced from 54 or 60 to 54 per week. Wages advanced 28, per week. Cranemen—Wages advanced from 18, to 38, per week to majority of men. Laid Goods Porters—Present hours reduced from 54, 60, or 63 to 54 or 57 per week. Wages advanced 28, per week.

Platelayers (Maintenance and Renewal) and Permanent Way Labourers--Wages advanced 1s. per week. Pay for Good Friday and Christmas Day holiday. Saturday finishing time to be 12 noon in summer.

1.  $\mathcal{A} = \mathcal{A}_1 \cup \mathcal{A}_2$ ,  $\mathcal{A}_1 \cap \mathcal{A}_2 = \emptyset$ ,  $W(\mathcal{A}_1) \cap W(\mathcal{A}_2) = \emptyset$ ,  $W(\mathcal{A}) = W(\mathcal{A}_1) \cup W(\mathcal{A}_2)$ .

## GENERAL NEWS.

### TRANSPORT LECTURE AT GLASGOW.

MR. A. A. COOPER, an engineer in fact of the Caledonian Railway, gave the lecture at the opening meeting of the Glasgow branch of the Institution of Civil Engineers, his subject being "Progress in the means of Transport." In the course of his reference to railway transport, he mentioned that in the Caledonian Company alone there were 50,000 shareholders. In December, 1912, the capital of all the railways in Great Britain was £1,335,000,000. The gross receipts amounted to £128,500,000, and the expenditure to £81,250,000. The total number of passengers carried was 1,291,337,000, and the tonnage of goods and minerals transported amounted to 520,000,000 tons. The receipts on goods traffic came to £63,000,000, leaving a balance of £65,500,000 for passenger traffic. The taxes paid by railway companies to the Government and to local authorities reached the large total of £5,120,000. The total mileage of the railways of the world in December, 1911, was 673,303 miles, of which 190,240 miles were State-owned. In the British Empire alone there were 58,407 miles of State-owned railways. The mileage of the railways in Great Britain and Ireland in December, 1912, was 44,747 miles.

### OIL FUEL ON AMERICAN RAILWAYS.

IN THE report on the production of petroleum in 1912 Dr. D. T. Day (of the United States Geographical Survey), deals with the subject of the adoption of oil fuel on American railroads. He points out that during last year there was a large increase in the number of companies adopting oil as a fuel, but makes the statement that in 1913 there will be a change back to coal in many instances, owing to the high prices charged for oil.

Forty-eight railway lines in the United States used oil as fuel during 1912. The consumption of fuel oil by railroads amounted to 33,065,508 barrels in 1912, an increase of nearly 13 per cent. The number of miles of railroad operated by the use of oil declined from 30,039 miles to 28,451 miles. The total mileage, however, made by oil-burning engines increased—in other words, more trains were run on less track. In 1900 the number of miles made for each barrel of oil consumed was 3.93. This figure has declined almost continuously since then, till in 1912 only 3.61 miles per barrel was the result.

The decrease in number of miles operated by oil is due to the return of a few railroads to coal. On one road this was due to the fact that the oil was not of the quality required for the portion of the line which went back to coal. On another road the change is attributed to the increased cost of fuel oil. During the present year the cost of oil has again risen.

### NORTH EASTERN RAILWAY CENTRALISATION.

IT IS reported that the North Eastern directors have purchased the Feavordale estate, Darlington, adjoining the extensive area known as Stooperdale, wherein the company has, during the past two years, erected offices, paint shops and other buildings. It is understood that these premises, with the new acquisition, will be utilised for the centralisation and development of departments in the near future from various centres of their system. It is also stated that the company

contemplate the concentration at Darlington of departments from York and Shildon. The extensive wagon works of the company at Shildon are largely honey combed with colliery workings.

### IMPORTANT DEVELOPMENT SCHEMES.

The company intends to double the lines between Ouston Junction (Birtley) and Durham, thus making four sets of metals to continue those that already exist between Birtley and Bensham. It will be a costly undertaking, as there are five viaducts on this seven and a half mile stretch of railway. It is also anticipated that two of the sidings between Bensham and Gateshead will be converted into running lines, so that with the High Level and King Edward bridges there will be adequate means of entrance to Newcastle. The scheme will include the provision of island platforms at Chester-le-Street and Plawsworth, and a new goods station at Chester-le-Street about three times the size of the present one.

### THE TRACK LAYER IN AUSTRALIA.

The first trial of the use of the track-layer in the construction of the east to west Trans-Continental has given satisfaction. The work was carried out by 42 men. Half of them worked with the train and half behind it. Half a mile of track was laid in 3½ hours, and in another hour the follow-on spikers had fixed the rails to the sleepers. The work done by forty men was creditable. So soon as the half-mile was laid the men ceased work, in consequence of lack of rolling stock and locomotives. The half-mile laid, however, shows what the tracklayer could accomplish if it were fed with material. To enable the machine to work to its capacity, supplies must be continuous, and siding accommodation will be required every ten miles.

### MIDLAND RAILWAY INSTITUTE.

MR. E. J. Lewis, of the Midland goods manager's office, read a paper on "Improvements in Railway Methods" at a meeting of the Midland Railway Institute on November 20. He remarked that owing to the restrictive effect of the gauge and tunnel height, the size of engines, coaches, and goods vehicles could only be increased in width and height up to a certain point, while practical and technical difficulties precluded extension in length beyond a certain point, especially in the case of locomotives. Mr. Lewis dealt with the development of the locomotive, mentioning the compounds of the late Mr. F. W. Webb, of the London and North Western Railway, which were scrapped by Mr. Webb's successor, Mr. G. Whale. The Midland Company had built a number of three-cylinder compounds, which were highly successful. The compound, however, had been overshadowed by the superheater, which seemed to be in a fair way to general adoption. Having dealt with electric traction, electric signalling, track circuiting and the recently invented Radiophone signalling to moving trains, which the Midland Company is adopting, Mr. Lewis referred to the "control" system, which enabled the company to increase the working capacity of the line.

**The Royal Commission on Railways.** At the Liverpool Chamber of Commerce, on Tuesday, a letter was read from Lord Darby, chairman of the Royal Commission on Railways, desiring to get the views of the large Chambers before the end of January. He suggested that a committee to consider the railway changes required for the proposed nationalisation, owing to probable increased costs.

### List of Applications made to the Light Railway Commissioners in November, 1913, for Light Railway Orders.

			Miles of track to be laid	Miles of track to be altered	Cost of the scheme	Authority
1.	Yorks, W.R.	From York to Easingwold	10.0	0.0	£4,840,000	Butterworth and Co.
2.	Yorks, N.R.	From York to Easingwold	10.0	0.0	£4,840,000	Butterworth and Co. (Keighley).
3.	Yorks, City	From York to Easingwold	10.0	0.0	£4,840,000	Sharpe and Co.
4.	Yorks, City	From York to Easingwold	10.0	0.0	£4,840,000	Sharpe and Co.
5.	Yorks, City	From York to Easingwold	10.0	0.0	£4,840,000	Sharpe and Co.
6.	Yorks, City	From York to Easingwold	10.0	0.0	£4,840,000	Sharpe and Co.
7.	Yorks, City	From York to Easingwold	10.0	0.0	£4,840,000	Sharpe and Co.
8.	Yorks, City	From York to Easingwold	10.0	0.0	£4,840,000	Sharpe and Co.
9.	Yorks, City	From York to Easingwold	10.0	0.0	£4,840,000	Sharpe and Co.
10.	Yorks, City	From York to Easingwold	10.0	0.0	£4,840,000	Sharpe and Co.



## EUROPEAN SLEEPER MARKET.

The market for sleepers in the 1915-14 season is not clearly defined. Compared with the year 1914, the value of sleepers has risen sharply. It is expected, however, that supplies will be limited. The unsatisfactory moist summer of this year prevented to a considerable degree the removal of round wood from many parts of Russia, and this may result in a reduced supply compared with past years, when, at the auctions twice or three times as much as was required was offered. This fact always tended to depress the market. The results of the last tenders for railway sleepers in Austria were somewhat unexpected. The prices for almost all kinds of sleepers held to the level of preceding years, and only the value of oak sleepers rose significantly. This is not normal, for the tone of the oak market has been very depressed for some time, because of the state of affairs in the Balkans. But the rise in price was stimulated by the expectation of the tenderers in Austria of a greatly strengthened demand for oak goods next year, both in Austria-Hungary and in the neighbouring Balkan States. Russia, extending her railway system in various parts of the country is expected to require large quantities for her own needs. Consequently, she is not looked to to compete so keenly on the foreign markets. All these considerations produced their impression, and tend to strengthen the market for soft goods in Russia, Galicia, Germany, etc. The reserves of pine sleepers in various countries appear to be very small. In consequence with the improved values in round wood, and the greater cost of working it, the preparation of pine sleepers has been proceeded with under considerable reserve. On the other hand, during this year large quantities of sleepers were supplied to the Government railways of Bavaria, Baden, Saxony, and Prussia; and this last, it is expected, will be calling for a much larger quantity of sleepers for the Rhine-Westphalian railway system. The demand for sleepers comes from other countries as well, which also tends to strengthen the market. There is a notable advance also in the price of red beech sleepers, which are now taking the place of oak sleepers more and more. The last-named can no longer be bought, because of their excessive prices.

## TROUBLE WITH SOUTH WALES RAILWAYMEN.

The lock-out of the followers of the Dublin labour agitator was responsible for the disorganisation of goods traffic in the South Wales district of the Great Western Railway this week. Some weeks ago an engine-driver sought notoriety by ceasing work in order to bring the eight-hour day into prominence. Subsequently he expressed his regret and gave an undertaking to comply with the terms of the Conciliation Board settlement, under which the hours are sixty per week until June, 1915. He was then reinstated, but on November 7 he declined to work certain traffic from Dublin, and was dismissed, as the company are under the statutory obligations applicable to common carriers. Another man then struck, and was refused re-engagement. On Tuesday last a great number of enginemen left their employment in order to secure the reinstatement of the two already referred to and an eight-hour day. All efforts of the Union officials to keep the men at work failed, although the latter were warned that the national executives would neither grant strike pay nor consider the question of a general strike which some of the men have since demanded. Yesterday a deputation of union officials was received at Swindon by Mr. Frank Potter, the general manager. Throughout the trouble Mr. Potter has rendered a service to his company and to the public by issuing statements for publication.

## RAILWAY CONSTRUCTION IN THE ARGENTINE.

The National Government will not recently sanctioned by the Province, but will insist that these branches shall not be competitive. In connection with the conciliatory policy with respect to the determination of the zone of influence, the Governor desires to adopt a conciliatory policy with respect to the determination of the zone of influence. The Ministry of Public Works and Communications, in connection with the line from San Juan to Jachal. The cost of construction and equipment is estimated at ten million dollars.

## PERSONAL.

Mr. J. I. Pord, Chief Engineer of the National Railway, has been appointed Chief Engineer of the Railway. Mr. Charles Corner, M.Inst.C.E., M.Am.Soc.C.E., Chief Engineer of the Railway, has been appointed Chief Engineer of the Railway. Mr. Hugh L. A. Warren, Chief Engineer of the Uruguay East Coast Railway, has resigned that position in order to become general manager, on the Bolivian side, of the Antofagasta and Bolivia Railway. Mr. W. A. Mowbray Perry, who is due to arrive at Montevideo in December. Mr. Perry has had previous experience in the railway service.

Mr. S. Price, K.C., of St. Thomas, is spoken of as the successor of Dr. J. Mills on his retirement from the Canadian Railway Commission next January. The salary is \$7,000 per year. Mr. Price has recently completed a two years' task in revising the Dominion Railway Act for Hon. Frank Cochrane. A voluminous Bill embodying the provisions of the new Act has been printed and given to the Cabinet Ministers and a few railway experts for private consideration and revision before it is introduced in Parliament next session.

Mr. J. Warriner, Chief Engineer of the Midland Railway, being about to retire under the age limit, the directors have appointed two outdoor divisional assistants to the chief goods manager. Mr. B. Varley will take the southern division, which is south and west of Derby, and Mr. H. F. Loney will take the northern section, which includes the Derby and Nottingham area. The appointments will operate on and from January 1 next. Mr. Varley started as a junior clerk at Skipton in 1875. After

engaged largely with the affairs of the staff and organisation, Mr. Varley has since been engaged with the affairs of the staff and organisation, Mr. Varley has since been engaged with the affairs of the staff and organisation, Mr. Varley has since been engaged with the affairs of the staff and organisation.

North Western, Lancashire and Yorkshire, and Midland working agreement. Mr. Loney, starting as a junior clerk in 1875, has since been engaged with the affairs of the staff and organisation, Mr. Loney has since been engaged with the affairs of the staff and organisation.

The Value of Advertising. The value of advertising is not only in the fact that it is a means of communication, but also in the fact that it is a means of communication. The value of advertising is not only in the fact that it is a means of communication, but also in the fact that it is a means of communication. The value of advertising is not only in the fact that it is a means of communication, but also in the fact that it is a means of communication.

## RAILWAY NOTES.

**Wireless Telegraphy on an American Train.** The first success in telegraphing on a train on the Pennsylvania Railroad was achieved on May 13, 1915, by Superintendent A. J. H. Smith. It is hoped that this system will be the means of saving many accidents.

**Sixty Years of Henley's Telegraph Works Company.** Henley's cable business of cable manufacturing, which was begun in 1855 at the works at North Woodwich, has reached its sixtieth anniversary. It is of interest to note that the contract which the company are now winning out for the supplying and laying of the 20,000-volt cables required in connection with the electrification of the Buenos Ayres suburban lines of the Central Argentine Railway is one of the most important secured by the company.

**Averting Competition with the Underground.** In the early days of their routes on the principle of the struggle between the underground and the surface, the London Underground Companies have abandoned the old King's Cross and Aldgate routes, which used to take in Grafton Street, Great Queen Street, Finsbury Avenue and Coventry Street to Piccadilly Circus. On the greater part of this route the above ground traffic is so great, and it is not so easy to run the Underground Railway.

**Driver Fisher** has been presented with a £5,000 and the frames of the plant of the Great Eastern Railway for his prompt action in averting the danger of the night engine crashing into a train before it had reached a signal. On October 10, 1915, Colonel von Donop, in his report on the accident, stated that "Driver Fisher averted the results of a collision, which otherwise must have been a very much more serious matter. This he did by the use of the risk of his life, and by the use of the highest concentration of his physical and promptitude."

**Trial of a New North Eastern Type of Engine.** During last week trial trips have been made with a new superheater class of three-cylinder locomotive constructed at the Darlington Works. The highest railway point in England 1,378 feet above the sea level is included in the section of the line between Darlington and Tebay where the trials took place with a train weighing nearly 160 tons, and the first trip on November 25 was in every way satisfactory. This type is intended to haul passenger trains of abnormal weight over the hilly country without the aid of pilot engines.

**Railway Electrification and Locomotive Standardisation.** Mr. W. H. D. in a paper read at a meeting of the Institution of Locomotive Engineers, remarked that one of the main considerations in the design of new engines by the railway authorities is the standardisation of the locomotive power. He saw no reason why a better state of things should not be carried out in the design of new engines. He pointed out that the standardisation of the locomotive power is a very important consideration in the design of new engines.

**Incentive to the Crystal Palace Traffic in 1915.** The British Dominions Exhibition, which is to be held in 1915, it has now been decided, will be housed in the grounds and buildings of the Crystal Palace.

**David Burnett and Lord Plymouth in their efforts to save the railway from the hands of the Government.**

**Festival of Empire, 1911.** The London, Brighton and South Coast Railway and the South Eastern and Chatham Railway

**Great Eastern Enterprises at Fenchurch and Dog Shovels.** Recently, companies in all parts of the country were responsible for the conveyance of some thirteen thousand exhibits on the occasion of the Festival of Empire, 1911.

**Imperial Motor Transport Council.** The Imperial Motor Transport Council has been formed to co-ordinate the transport of goods and other information. Mention is also made of the low rates charged for the conveyance of farm produce from the producer to the consumer, and also of small parcels of fish.

council will work in close touch with the Royal Automobile Club, and its principal objects are to advise and consult with associated bodies and correspondents throughout the Empire to form expert committees, and to publish periodical reports from information received through the medium of a system of correspondents throughout the Empire. To enable the council to deal promptly with enquiries relating to the selection of industrial motor vehicles for service abroad, or the operation of vehicles in such service, a subcommittee has been formed. Mr. G. A. Morton, assistant director of Government Railways, has been nominated by the Secretary of State for India to represent the India Office on the Council.

## OBITUARY.

**Mr. Christer P. Sandberg,** we regret to have to record, died at an advanced age on Thursday last at 4, Crystal Palace Park, S.E. Mr. Sandberg was sent to England many years ago as an agent of a foreign Government to order British rails for his Government. Sandberg sections became well-known, and he made use of his great experience in the manufacture to devise a specification which is known as the Silicon Steel Rail. In this, after eliminating the whole of the impure silicon, he mixed a certain known percentage of pure silicon, with excellent effect on the durability of the product. Mr. Sandberg was one of the oldest members of the Institution of Civil Engineers, having joined in 1896. He had been the recipient of the Telford medal and the Telford premium, and contributed a paper on rails which may still be considered standard essays on the subject.

## BANK RETURN.

The return of the Bank of England for the week ended Wednesday, December 3, compares with that for the previous week, shows the following changes:—

Dec. 3, 1915.	BANKING DEPARTMENT.	Nov. 26, 1915.	Dec. 3, 1915.	Increase.	Decrease.
£	Liabilities	£	£	£	£
3,194,795	Reserve .....	3,187,093	3,197,088	2,295	—
11,979,719	Public Deposits .....	9,749,264	7,759,770	—	1,982,488
19,941,961	Other "do." .....	49,721,198	39,591,169	—	833,285
17,092	7 Day Bills .....	1,465	13,592	—	1,461
1,001,579	Govt. Securities .....	1,181,093	1,184,993	Decrease.	Increase
9,681,735	Other "do." .....	29,591,342	27,043,833	1,646,579	—
26,110,270	Notes .....	28,614,470	21,860,370	1,073,220	—
1,111,559	Gold and Silver .....	1,227,751	1,121,117	88,636	—
				2,827,730	2,827,730
				Increase.	Decrease.
50.08 p.c.	Reserve .....	27,410,265	26,280,877	—	1,171,566
50.08 p.c.	Ratio .....	74 s. 8 d.	74 s. 4 d.	—	—
1 p.c.	Bank Rate .....	1 p.c.	1 p.c.	—	—
1 p.c.	Market Rate .....	1 p.c.	1 p.c.	—	—
	ISSUE DEPARTMENT.				
37,809,855	Coin and Bullion .....	37,800,070	—	9,785	—
28,116,965	Notes Issued .....	28,116,965	28,769,801	—	652,836

## PECKETT'S LOCOMOTIVES

PECKETT & SONS,  
ATLAS LOCOMOTIVE WORKS, BRISTOL.

## MIDLAND

RAILWAY CARRIAGE & WAGON CO., LTD.,

Builders of  
RAILWAY CARRIAGES,  
RAILWAY WAGONS,  
TRAMWAY CARS,

and every description of Rolling Stock.

MIDLAND WORKS, BIRMINGHAM,  
and Abbey Works, Shrewsbury.

# RAILWAY STOCK AND SHARE LIST.

## HOME RAILWAY ORDINARY STOCKS.

NAME	CLASS	PRICE	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569	1568	1567	1566	1565	1564	1563	1562	1561	1560	1559	1558	1557	1556	1555	1554	1553	1552	1551	1550	1549	1548	1547	1546	1545	1544	1543	1542	1541	1540	1539	1538	1537	1536	1535	1534	1533	1532	1531	1530	1529	1528	1527	1526	1525	1524	1523	1522	1521	1520	1519	1518	1517	1516	1515	1514	1513	1512	1511	1510	1509	1508	1507	1506	1505	1504	1503	1502	1501	1500	1499	1498	1497	1496	1495	1494	1493	1492	1491	1490	1489	1488	1487	1486	1485	1484	1483	1482	1481	1480	1479	1478	1477	1476	1475	1474	1473	1472	1471	1470	1469	1468	1467	1466	1465	1464	1463	1462	1461	1460	1459	1458	1457	1456	1455	1454	1453	1452	1451	1450	1449	1448	1447	1446	1445	1444	1443	1442	1441	1440	1439	1438	1437	1436	1435	1434	1433	1432	1431	1430	1429	1428	1427	1426	1425	1424	1423	1422	1421	1420	1419	1418	1417	1416	1415	1414	1413	1412	1411	1410	1409	1408	1407	1406	1405	1404	1403	1402	1401	1400	1399	1398	1397	1396	1395	1394	1393	1392	1391	1390	1389	1388	1387	1386	1385	1384	1383	1382	1381	1380	1379	1378	1377	1376	1375	1374	1373	1372	1371	1370	1369	1368	1367	1366	1365	1364	1363	1362	1361	1360	1359	1358	1357	1356	1355	1354	1353	1352	1351	1350	1349	1348	1347	1346	1345	1344	1343	1342	1341	1340	1339	1338	1337	1336	1335	1334	1333	1332	1331	1330	1329	1328	1327	1326	1325	1324	1323	1322	1321	1320	1319	1318	1317	1316	1315	1314	1313	1312	1311	1310	1309	1308	1307	1306	1305	1304	1303	1302	1301	1300	1299	1298	1297	1296	1295	1294	1293	1292	1291	1290	1289	1288	1287	1286	1285	1284	1283	1282	1281	1280	1279	1278	1277	1276	1275	1274	1273	1272	1271	1270	1269	1268	1267	1266	1265	1264	1263	1262	1261	1260	1259	1258	1257	1256	1255	1254	1253	1252	1251	1250	1249	1248	1247	1246	1245	1244	1243	1242	1241	1240	1239	1238	1237	1236	1235	1234	1233	1232	1231	1230	1229	1228	1227	1226	1225	1224	1223	1222	1221	1220	1219	1218	1217	1216	1215	1214	1213	1212	1211	1210	1209	1208	1207	1206	1205	1204	1203	1202	1201	1200	1199	1198	1197	1196	1195	1194	1193	1192	1191	1190	1189	1188	1187	1186	1185	1184	1183	1182	1181	1180	1179	1178	1177	1176	1175	1174	1173	1172	1171	1170	1169	1168	1167	1166	1165	1164	1163	1162	1161	1160	1159	1158	1157	1156	1155	1154	1153	1152	1151	1150	1149	1148	1147	1146	1145	1144	1143	1142	1141	1140	1139	1138	1137	1136	1135	1134	1133	1132	1131	1130	1129	1128	1127	1126	1125	1124	1123	1122	1121	1120	1119	1118	1117	1116	1115	1114	1113	1112	1111	1110	1109	1108	1107	1106	1105	1104	1103	1102	1101	1100	1099	1098	1097	1096	1095	1094	1093	1092	1091	1090	1089	1088	1087	1086	1085	1084	1083	1082	1081	1080	1079	1078	1077	1076	1075	1074	1073	1072	1071	1070	1069	1068	1067	1066	1065	1064	1063	1062	1061	1060	1059	1058	1057	1056	1055	1054	1053	1052	1051	1050	1049	1048	1047	1046	1045	1044	1043	1042	1041	1040	1039	1038	1037	1036	1035	1034	1033	1032	1031	1030	1029	1028	1027	1026	1025	1024	1023	1022	1021	1020	1019	1018	1017	1016	1015	1014	1013	1012	1011	1010	1009	1008	1007	1006	1005	1004	1003	1002	1001	1000	999	998	997	996	995	994	993	992	991	990	989	988	987	986	985	984	983	982	981	980	979	978	977	976	975	974	973	972	971	970	969	968	967	966	965	964	963	962	961	960	959	958	957	956	955	954	953	952	951	950	949	948	947	946	945	944	943	942	941	940	939	938	937	936	935	934	933	932	931	930	929	928	927	926	925	924	923	922	921	920	919	918	917	916	915	914	913	912	911	910	909	908	907	906	905	904	903	902	901	900	899	898	897	8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## RAILWAY STOCK AND SHARE LIST.

### Colonial Railways.

### Foreign Railways.

[illegible]

# OFFICIAL TRAFFIC RETURNS.

## Barry.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	117,118	116,341
Goods, etc.	176,176	175,341
Miles open	176	175
Inc. this week, £1,119	176	175

## Caledonian.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	234,700	232,400
Goods, etc.	59,100	59,600
Total for week	293,800	292,000
Aggregate for 48 weeks	4,747,700	4,449,400
Miles open	11,194	11,194
Inc. this week, £1	11,194	11,194

## Cambrian.

Week ending Nov. 30	1913.	1912.
Passengers, etc.	42,152	42,152
Goods, etc.	2,966	2,966
Total for week	45,118	45,118
Aggregate for 48 weeks	2,515,472	2,298,739
Miles open	300	287
Inc. this week, £245	48	15,245

## Central London.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	22,142	22,142
Aggregate for 48 weeks	22,142	22,142
Miles open	64	64
Inc. this week, £147	147	147

## City and South London.

Week ending November 29	1913.	1912.
Total for week	22,687	22,127
Aggregate for 48 weeks	1,134,452	1,134,142
Miles open	74	74
Dec. this week, £440	Dec. 48 weeks, £12,712	

## Dublin and South Eastern.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	22,687	22,127
Goods, etc.	1,134	1,134
Total for week	24,821	24,261
Aggregate for 48 weeks	1,278,772	1,278,772
Miles open	151	151
Inc. this week, £292	Inc. 48 weeks, £10,451	

## Furness.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	42,152	42,152
Goods, etc.	2,966	2,966
Total for week	45,118	45,118
Aggregate for 48 weeks	2,515,472	2,298,739
Miles open	159	159
Inc. this week, £147	Inc. 48 weeks, £181	

## Glasgow and South Western.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	114,300	112,800
Goods, etc.	21,100	21,100
Total for week	135,400	133,900
Aggregate for 48 weeks	1,921,700	1,921,700
Miles open	47	47
Inc. this week, £2,500	Inc. 48 weeks, £275,200	

## Great Central.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	219,500	18,300
Goods, etc.	73,700	71,000
Total for week	293,200	89,300
Aggregate for 48 weeks	1,111,000	1,107,900
Miles open	11	11
Inc. this week, £5,100	Inc. 48 weeks, £599,800	

## Great Eastern.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	4,113	4,113
Goods, etc.	1,113	1,113
Total for week	5,226	5,226
Aggregate for 48 weeks	1,113	1,113
Miles open	1,113	1,113
Inc. this week, £4,500	Inc. 48 weeks, £1,113	

## Great Northern.

Week ending November 29	1913.	1912.
Passengers, etc.	234,000	234,000
Goods, etc.	85,700	85,700
Total for week	319,700	319,700
Aggregate for 48 weeks	6,135,600	5,790,100
Miles open	6,135,600	5,790,100
Inc. this week, £1,113	Inc. 48 weeks, £1,113	

## Great Northern (Ireland).

Week ending Nov. 29	1913.	1912.
Passengers, etc.	29,740	29,740
Goods, etc.	12,260	10,620
Aggregate for 48 weeks	1,032,257	1,032,257
Miles open	1,032,257	1,032,257
Inc. this week, £2,080	Inc. 48 weeks, £59,227	

## Great North of Scotland.

Week ending November 29	1913.	1912.
Passengers, etc.	24,560	24,560
Goods, etc.	5,450	4,900
Aggregate for 48 weeks	1,497,632	1,417,401
Miles open	1,130	1,130
Inc. this week, £513	Inc. 48 weeks, £80,251	

## Great Southern and Western.

Week ending November 29	1913.	1912.
Passengers, etc.	11,113	11,113
Goods, etc.	15,136	15,136
Total for week	26,249	26,249
Aggregate for 48 weeks	1,497,632	1,417,401
Miles open	1,130	1,130
Inc. this week, £1,113	Inc. 48 weeks, £80,251	

## Great Western.

Week ending November 30	1913.	1912.
Passengers, etc.	114,000	108,000
Goods, etc.	1,134	1,134
Total for week	115,134	109,134
Aggregate for 48 weeks	13,917,000	12,976,000
Miles open	13,917,000	12,976,000
Inc. this week, £19,000	Inc. 48 weeks, £941,000	

## Highland.

Week ending Nov. 30	1913.	1912.
Passengers, etc.	4,411	4,411
Goods, etc.	3,829	3,705
Total for week	8,240	8,116
Aggregate for 48 weeks	554,299	513,476
Miles open	448	448
Inc. this week, £147	Inc. 48 weeks, £1,113	

## Hull and Barnsley.

Week ending Nov. 30	1913.	1912.
Passengers, etc.	1,113	1,113
Goods, etc.	14,760	14,760
Total for week	15,873	15,873
Aggregate for 48 weeks	115,479	115,479
Miles open	115,479	115,479
Inc. this week, £147	Inc. 48 weeks, £1,113	

## Lancashire and Yorkshire.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	237,000	234,563
Goods, etc.	73,900	74,875
Total for week	310,900	309,438
Aggregate for 48 weeks	5,963,822	5,701,903
Miles open	5,963,822	5,701,903
Inc. this week, £1,113	Inc. 48 weeks, £1,113	

## London, Brighton and South Coast.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	214,144	214,144
Goods, etc.	18,281	18,281
Total for week	232,425	232,425
Aggregate for 48 weeks	3,165,971	3,052,555
Miles open	3,165,971	3,052,555
Inc. this week, £1,113	Inc. 48 weeks, £1,113	

## London Electric.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	114,270	114,270
Aggregate for 48 weeks	653,543	653,543
Miles open	653,543	653,543
Dec. this week, £715	Inc. 48 weeks, £1,113	

## London and North Western.

Week ending November 30	1913.	1912.
Passengers, etc.	114,000	115,000
Goods, etc.	183,000	184,000
Aggregate for 48 weeks	14,847,000	14,872,000
Miles open	14,847,000	14,872,000
Dec. this week, £3,000	Inc. 48 weeks, £1,113	

## London and South Western.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	255,500	254,300
Goods, etc.	35,900	34,400
Aggregate for 48 weeks	4,813,700	4,762,800
Miles open	4,813,700	4,762,800
Dec. this week, £1,113	Inc. 48 weeks, £1,113	

## Metropolitan.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	216,228	214,741
Goods, etc.	1,113	1,113
Aggregate for 48 weeks	1,113	1,113
Miles open	1,113	1,113
Inc. this week, £1,505	Inc. 48 weeks, £99,542	

## Metropolitan District.

Week ending November 29	1913.	1912.
Passengers, etc.	1,113	1,113
Goods, etc.	1,113	1,113
Total for week	2,226	2,226
Aggregate for 48 weeks	1,113	1,113
Miles open	1,113	1,113
Dec. this week, £145	Inc. 48 weeks, £1,113	

## Midland.

Week ending November 29	1913.	1912.
Passengers, etc.	674,000	674,000
Goods, etc.	192,000	188,000
Total for week	866,000	862,000
Aggregate for 48 weeks	12,124,000	12,115,000
Miles open	12,124,000	12,115,000
Dec. this week, £15,000	Inc. 48 weeks, £725,000	

## Midland Great Western of Ireland.

Week ending November 28	1913.	1912.
Passengers, etc.	22,557	22,557
Goods, etc.	7,946	8,143
Total for week	30,503	30,700
Aggregate for 48 weeks	1,113	1,113
Miles open	1,113	1,113
Inc. this week, £199	Inc. 48 weeks, £35,195	

## North British.

Week ending November 30	1913.	1912.
Passengers, etc.	212,500	212,500
Goods, etc.	64,300	60,300
Aggregate for 48 weeks	4,745,100	4,745,100
Miles open	4,745,100	4,745,100
Inc. this week, £5,600	Inc. 48 weeks, £358,500	

## North Eastern.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	262,585	258,046
Goods, etc.	163,349	144,651
Total for week	425,934	402,697
Aggregate for 48 weeks	10,407,203	9,254,450
Miles open	10,407,203	9,254,450
Inc. this week, £1,113	Inc. 48 weeks, £1,113	

## North London.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	23,513	23,585
Goods, etc.	5,186	5,386
Total for week	28,699	28,971
Aggregate for 48 weeks	235,935	235,508
Miles open	235,935	235,508
Inc. this week, £1,113	Inc. 48 weeks, £1,113	

## North Staffordshire.

Week ending November 30	1913.	1912.
Passengers, etc.	41,700	41,800
Goods, etc.	15,000	15,900
Aggregate for 48 weeks	1,970,440	1,937,720
Miles open	1,970,440	1,937,720
Dec. this week, £1,113	Inc. 48 weeks, £1,113	

## Rhymney.

Week ending November 30	1913.	1912.
Passengers, etc.	1,113	1,113
Goods, etc.	1,113	1,113
Total for week	2,226	2,226
Aggregate for 48 weeks	1,113	1,113
Miles open	1,113	1,113
Dec. this week, £50	Inc. 48 weeks, £1,113	

## South Eastern and Chatham.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	258,727	258,550
Goods, etc.	1,113	1,113
Aggregate for 48 weeks	4,713,459	4,519,973
Miles open	4,713,459	4,519,973
Inc. this week, £1,418	Inc. 48 weeks, £104,295	

## Taff Vale.

Week ending Nov. 29	1913.	1912.
Passengers, etc.	1,113	1,113
Goods, etc.	1,113	1,113
Total for week	2,226	2,226
Aggregate for 48 weeks	1,113	1,113
Miles open	1,113	1,113
Dec. this week, £1,113	Inc. 48 weeks, £1,113	

NOTES AND EXPLANATIONS.—The figures in this table are taken from the returns of the railway companies, and are not necessarily correct. The figures are given in pounds sterling, and are rounded off to the nearest pound. The figures are given in pounds sterling, and are rounded off to the nearest pound. The figures are given in pounds sterling, and are rounded off to the nearest pound.



## OFFICIAL TRAFFIC RETURNS.

## BRITISH AND IRISH RAILWAYS, &amp;c.

1913.		Latest Economic Reports 4.		No.		Aggregate to Out-	
1913.	1913.	Period.	1913.	1913.	Weeks	1913.	Incorde.
20	80		1,000	1,000	44	13,014	13,014
31	61		1,000	1,000	45	13,014	13,014
24	24		1,000	1,000	46	62,754	62,754
10	10		1,000	1,000	47	1,000	1,000
16	16		1,000	1,000	48	1,000	1,000
16	16		1,000	1,000	49	1,000	1,000
16	16		1,000	1,000	50	1,000	1,000
16	16		1,000	1,000	51	1,000	1,000
16	16		1,000	1,000	52	1,000	1,000
16	16		1,000	1,000	53	1,000	1,000
16	16		1,000	1,000	54	1,000	1,000
16	16		1,000	1,000	55	1,000	1,000
16	16		1,000	1,000	56	1,000	1,000
16	16		1,000	1,000	57	1,000	1,000
16	16		1,000	1,000	58	1,000	1,000
16	16		1,000	1,000	59	1,000	1,000
16	16		1,000	1,000	60	1,000	1,000
16	16		1,000	1,000	61	1,000	1,000
16	16		1,000	1,000	62	1,000	1,000
16	16		1,000	1,000	63	1,000	1,000
16	16		1,000	1,000	64	1,000	1,000
16	16		1,000	1,000	65	1,000	1,000
16	16		1,000	1,000	66	1,000	1,000
16	16		1,000	1,000	67	1,000	1,000
16	16		1,000	1,000	68	1,000	1,000
16	16		1,000	1,000	69	1,000	1,000
16	16		1,000	1,000	70	1,000	1,000
16	16		1,000	1,000	71	1,000	1,000
16	16		1,000	1,000	72	1,000	1,000
16	16		1,000	1,000	73	1,000	1,000
16	16		1,000	1,000	74	1,000	1,000
16	16		1,000	1,000	75	1,000	1,000
16	16		1,000	1,000	76	1,000	1,000
16	16		1,000	1,000	77	1,000	1,000
16	16		1,000	1,000	78	1,000	1,000
16	16		1,000	1,000	79	1,000	1,000
16	16		1,000	1,000	80	1,000	1,000
16	16		1,000	1,000	81	1,000	1,000
16	16		1,000	1,000	82	1,000	1,000
16	16		1,000	1,000	83	1,000	1,000
16	16		1,000	1,000	84	1,000	1,000
16	16		1,000	1,000	85	1,000	1,000
16	16		1,000	1,000	86	1,000	1,000
16	16		1,000	1,000	87	1,000	1,000
16	16		1,000	1,000	88	1,000	1,000
16	16		1,000	1,000	89	1,000	1,000
16	16		1,000	1,000	90	1,000	1,000
16	16		1,000	1,000	91	1,000	1,000
16	16		1,000	1,000	92	1,000	1,000
16	16		1,000	1,000	93	1,000	1,000
16	16		1,000	1,000	94	1,000	1,000
16	16		1,000	1,000	95	1,000	1,000
16	16		1,000	1,000	96	1,000	1,000
16	16		1,000	1,000	97	1,000	1,000
16	16		1,000	1,000	98	1,000	1,000
16	16		1,000	1,000	99	1,000	1,000
16	16		1,000	1,000	100	1,000	1,000

## FOREIGN AND COLONIAL—Continued.

Railway.	Income.		Latest Earnings Reported.		No. of Weeks.	Aggregate to Date.		
	1913.	1912.	Percent.	1913.		1912-13.	Income.	
Salvador .....	109	100	Nov. 29	21,250	-2,000	22	118,710	-53,000
San Pedro de Macoris .....	118 1/2	114 1/2	Nov. 29	62,457	-21,066	21	1,101,773	-13,000
Sanchez-Camacho .....	435	425	March 1	3,171,155	+8,838	5 1/2	23,038,932	-28,000
Trinidad, Pinar del Rio .....	155	155	March 1	88,724	+11,416	5 1/2	5,689,835	-93,000
Trinidad, Pinar del Rio .....	155	155	March 1	111,587	0	5 1/2	7,761,001	+73,000
Trinidad, Pinar del Rio .....	1,749 1/2	1,692 1/2	Nov. 1	1,431,377	-74,950	24	23,577,455	-1,000
Trinidad, Pinar del Rio .....	184	184	October 1	28,215	-1,178	4 1/2	1,011,476	-26,000
Temascalcan .....	113	113	August 1	24,405	+846	3 1/2	1,606,865	-1,000
Union de Reyes .....	678	672	August 1	29,200	-542	24	4,322,161	-7,000
Union de Reyes .....	71	81	Nov. 1	588	0	12	3,321,161	-1,000
Uru. North .....	73	73	October 1	2,064	-836	4 1/2	1,693,320	-3,000
W. & B. Havana .....	147	147	Nov. 29	4,933	-602	22	1,115,450	-3,000
W. & B. Havana .....	112 1/2	112 1/2	October 1	7,600	0	24	2,745,000	+299,000
Yucatan, Inter. .....	112	112	October 1	14,458	-1,305	21	146,960	-1,000

## UNITED STATES RAILWAYS

[illegible]

## FOREIGN AND COLONIAL RAILWAYS.

Inventories	Months		Fiscal Year		Fiscal Year		No. of Weeks	Aggregate to Date	
	1943	1942	1943	1942	1943	1942		1943	1942
App. & Trade	33	35	Nov. 25	Nov. 25	14,060	12,645	18	6,025,000	5,850,000
App. & Trade	75	75	Nov. 25	Nov. 25	28,610	+700			
App. & Trade	76	76	Nov. 25	Nov. 25	35,530			1,712,414	1,687,000
App. & Trade	69	69	Nov. 25	Nov. 25	6,620	545	22	13,008	14,125
App. & Trade	111	111	Nov. 25	Nov. 25	2,700	1,800	22	37,710	38,225
App. & Trade	111	111	Nov. 25	Nov. 25	1,500,000	+24,133		3,700,000	3,675,000
App. & Trade	111	111	Nov. 25	Nov. 25	1,500,000			2,185,000	2,185,000
App. & Trade	102	102	Nov. 25	Nov. 25	1,925	-20,297		14,430,000	14,430,000
App. & Trade	111	111	Nov. 25	Nov. 25	15,000	-2,631		78,200	78,200
App. & Trade	111	111	Nov. 25	Nov. 25	14,701			1,444,655	1,444,655
App. & Trade	24	24	Nov. 25	Nov. 25	752,000	+15,000		2,830,000	2,830,000
App. & Trade	11	11	Nov. 25	Nov. 25	5,010		1 M	41,000	41,000
App. & Trade	11	11	Nov. 25	Nov. 25	7,330		1 M	92,000	92,000
App. & Trade	2,229	2,274	Nov. 25	Nov. 25	12,800,000	+57,033		25,000,000	24,710,000
App. & Trade	111	111	Nov. 25	Nov. 25	1,000	-1,000	1 M	316,512	316,512
App. & Trade	470	465	Nov. 25	Nov. 25	7,225	+5,593		78,200	78,200
App. & Trade	34	34	Nov. 25	Nov. 25	22,000		22	1,874,000	1,874,000
App. & Trade	10	10	Nov. 25	Nov. 25	22,000		1 M		
App. & Trade	60	60	Nov. 25	Nov. 25	8,600		18	18,652	18,652
App. & Trade	3,532	3,337	Nov. 25	Nov. 25	11,000	-31,000	22	2,068,995	2,068,995
App. & Trade	1,721	1,663	Nov. 25	Nov. 25	5,070			14,000	14,000
App. & Trade	1,312	1,312	Nov. 25	Nov. 25	3,917,741	+57,716		19,078,000	19,078,000

## WORKING STATEMENTS AS LAST REPORTED.

Railroad.	1912.		1913.	
	Net Earnings.	Inc. or Dec.	Net Earnings.	Inc. or Dec.
Atlantic Southern Ry., Sept.	1,017,411		\$111,545	-619.
Atlantic Southern Ry., Oct.	1,317,874	+112,934	324,455	-84.
At. & N. O. Ry., Oct.	9,744,765	-238,875	3,389,733	-167.
July 1 to September 30	8,841,735		9,637,024	-114.
Baltimore & Annapolis Ry., Oct.	9,317,000	+73,324	2,404,755	-68.
July 1 to September 30	3,819,779	+1,711,839	10,281,157	-37.
Chesapeake & Northern Ry., Oct.	2,587,150	+315,993	1,091,100	+298.
July 1 to September 30	14,450,600	+801,693	2,451,900	+437.
Chesapeake & Potomac Ry., Oct.	14,450,000	+1,433,000	5,684,000	-532.
July 1 to September 30	3,100,000	+1,131,370	1,380,000	+30.
Chesapeake & Western Ry., Oct.	4,121,151	+153,721	1,020,250	+85.
July 1 to September 30	3,234,672	+254,445	3,123,900	+35.
Chicago Great West. September	1,337,014		47,977	
July 1 to September 30	1,337,014	+103,175	1,081,750	-176.
D. C. & R. Ry., Sept.	2,131,841	-101,927	733,201	-87.
July 1 to September 30	6,623,523	-90,340	1,684,737	-176.
Great Falls & Columbia Ry., Oct.	2,319,400	+112,000	2,215,200	+236.
July 1 to October 31	3,353,700	+141,250	912,700	-18.
Greensboro & Atlantic Ry., Oct.	42,551	-5,551	2,250	-18.
July 1 to September 30	177,900	+4,100	Dr. 17,500	-18.
Hammond & Western Ry., Oct.	131,732	+1,000	27,600	-174.
July 1 to September 30	319,200	+2,430	9,700	-23.
Harrisburg & M. & O. Ry., Oct.	51,400	+2,330	7,900	+173.
July 1 to September 30	184,100	+7,700	19,500	-23.
Portland & Sagadahoc Ry., Oct.	1,017,033	+1,300	25,250	-174.
July 1 to September 30	4,100,000	+174,650	1,010,000	-84.
R. & N. Y. Ry., Oct.	\$5,233,511	+57,725	\$1,601,983	-84.
July 1 to September 30	15,878,885	+984,000	3,927,153	-152.
Minn. St. P. & N. W. Ry., Sept.	1,931,231	+21,000	750,705	-134.
July 1 to September 30	4,100,000	+1,000	1,918,615	-174.
Mo. & N. W. Ry., Sept.	2,471,535	-89,991	932,674	-174.
July 1 to September 30	8,149,713	+542,010	2,534,417	-84.
Norfolk & Western Ry., Sept.	3,156,015	+252,592	862,904	-1,951.
July 1 to September 30	8,341,000	-7,019,370	7,000,002	-1,990.
Norfolk & West. Ry., July	957,001	+1,012	979,425	-84.
P. & M. Ry., Sept.	4,231,530	-105,655	1,568,587	-292.
July 1 to September 30	12,175,483	-331,881	4,471,493	-898.
P. & M. Ry., Oct.	1,017,150	-109,447	Dr. 11,527	-174.
July 1 to September 30	6,337,624	-3,270,205	Dr. 370,124	-1,233.
P. & M. Ry., Sept.	1,017,150	-1,120,000	1,397,000	-714.
July 1 to September 30	19,065,108	-3,522,339	3,811,371	-2,014.
Pitts. & C. Ry. & N. Y., Sept.	4,100,000	+80,000	1,000,000	-174.
July 1 to September 30	31,004,000	+1,353,472	4,514,233	-3,053.
St. Louis & Valley Ry., July	3,351,517	+4,485	1,101,001	-30.
St. Louis & Valley Ry., Sept.	4,444,700	-21,400	1,603,194	-35.
July 1 to September 30	11,001,233	-9,900	2,028,745	-396.
St. Louis & Valley Ry., Oct.	8,441,551	1,045	3,527,718	-582.
July 1 to September 30	16,341,110	1,045	5,050,350	-1,254.
W. Va. Ry., Sept.	1,271,000	-14,000	81,000	-174.
July 1 to September 30	18,435,000	-1,100	2,301,194	-101.

a Earnings reported by company; b in U.S. dollars; c in francs; d in marks; e in lire; f in yen; g in drachmas; h in pesetas; i in Belgian currency; k in Mexican dollars.

In coding: 1 in dollars, 2 in centesimos, 3 in mils, 4 in mils, 5 in cents, 6 in decimas, 7 in pesos, 8 in bolivian currency, 9 in Mexican dollars. \* Including India and Malaya. † Including receipts of leased lines.

<sup>ac</sup> Including Cordoba and Rosario and Cordoba Central B. Ay. Extension





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## COMPANY NOTICES.

## Great Eastern Railway Company.

NOTICE is hereby given that the Company's Christmas Dinner will be held at the Victoria Hotel, Strand, on Friday, December 19th, 1913, at 7.30 p.m. Tickets, which may be obtained from the Company's Ticket Office, 10, Abchurch Lane, London, E.C. 4, or from the Ticket Office of the Railway, 10, Abchurch Lane, London, E.C. 4, are now on sale. The Dinner will be a most excellent one, and the Company's Christmas Dinner is a most popular one.

## North Staffordshire Railway.

NOTICE is hereby given that the Company's Christmas Dinner will be held at the Victoria Hotel, Strand, on Friday, December 19th, 1913, at 7.30 p.m. Tickets, which may be obtained from the Company's Ticket Office, 10, Abchurch Lane, London, E.C. 4, or from the Ticket Office of the Railway, 10, Abchurch Lane, London, E.C. 4, are now on sale. The Dinner will be a most excellent one, and the Company's Christmas Dinner is a most popular one.

## Canadian Pacific Railway Company.

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## Portuguese Government Guaranteed Railway Bonds.

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## TENDERS INVITED.

## Bombay, Baroda, and Central India Railway.

THE Directors are prepared to receive tenders for the construction of the Bombay, Baroda, and Central India Railway. The tenders should be submitted to the Secretary to the Committee of the Railway, 10, Abchurch Lane, London, E.C. 4, on or before the 15th inst. The tenders should be in the form of a letter addressed to the Secretary, and should be accompanied by a copy of the specification and drawings. The tenders should be sealed and marked "Tender for Bombay, Baroda, and Central India Railway" and should be deposited with the Secretary.

## Great Northern Railway Company (Ireland).

THE Great Northern Railway Company (Ireland) is prepared to receive tenders for the construction of the Great Northern Railway (Ireland). The tenders should be submitted to the Secretary to the Committee of the Railway, 10, Abchurch Lane, London, E.C. 4, on or before the 15th inst. The tenders should be in the form of a letter addressed to the Secretary, and should be accompanied by a copy of the specification and drawings. The tenders should be sealed and marked "Tender for Great Northern Railway (Ireland)" and should be deposited with the Secretary.

## The Stock Exchange.

NOTICE is hereby given that the Company's Christmas Dinner will be held at the Victoria Hotel, Strand, on Friday, December 19th, 1913, at 7.30 p.m. Tickets, which may be obtained from the Company's Ticket Office, 10, Abchurch Lane, London, E.C. 4, or from the Ticket Office of the Railway, 10, Abchurch Lane, London, E.C. 4, are now on sale. The Dinner will be a most excellent one, and the Company's Christmas Dinner is a most popular one.

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## SOUTH EASTERN &amp; CHATHAM RAILWAY.

## CHRISTMAS HOLIDAYS

MONTE CARLO, CANNES, NICE, MENTONE, Etc. CHEAP RETURN TICKETS via DOVER and CALAIS, via the Channel Tunnel, leaving CHARING CROSS, LONDON, on FRIDAY, DECEMBER 13th. Return fares as low as 1/6 and 2/6.

PARIS and Back, via CALAIS or BOULOGNE, 30s. od.; BRUSSELS, 40s. od.; BOULOGNE, 30s. od.

## WEDNESDAY, DECEMBER 24. SPECIAL LATE TRAINS.

Charing X 12	Waterloo	London B 12	New Cross	Sevenoaks	Leamington	Tunbridge	Bexhill	W. St.	St. Leonards	Hastings	Paignton	M. St. Leonards	Rmington	M. Hastings	Dover T.
0 12 15 12 20	12 17 12 22	12 22 12 27	12 27 12 32	12 32 12 37	12 37 12 42	12 42 12 47	12 47 12 52	12 52 12 57	12 57 1 02	1 02 1 07	1 07 1 12	1 12 1 17	1 17 1 22	1 22 1 27	1 27 1 32
Charing X 12	Waterloo	London B 12	New Cross	Sevenoaks	Leamington	Tunbridge	Bexhill	W. St.	St. Leonards	Hastings	Paignton	M. St. Leonards	Rmington	M. Hastings	Dover T.
5 12 10	12 10	12 10	12 10	12 10	12 10	12 10	12 10	12 10	12 10	12 10	12 10	12 10	12 10	12 10	12 10

CHEAP RETURN TICKETS will be issued by these lines, 1/6 and 2/6, on Saturday, December 14th.

## CHRISTMAS DAY. — The Ordinary Sunday Service will run, with certain Extra Trains.

FRIDAY, DECEMBER 26th. — Frequent Trains from VICTORIA, HOLBORN (LOW LEVEL) and LUDGATE HILL to the CRISTAL PALACE (HIGH LEVEL STATION) and vice versa.

For full particulars as to Train Services, etc., see Special Train Service Supplement and Holiday Programme.

FRANCIS H. DENT, General Manager.

Subscription to THE RAILWAY TIMES.

Published Every Saturday.

One Year—Twenty-five shillings.

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IRON AND STEEL UNDERFRAMES, WHEELS, AXLES,  
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Telegrams: "METRO," BIRMINGHAM. "RAILCAR, VIC., LONDON." "SHAFT," WEDNESBURY.


# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, DECEMBER 13, 1913.

No. 24.



**FIRE**

**Loss of Profits**

**Motor Car**

**Marine**

**LIFE**

**Accident**

**Fidelity**

**Burglary**

**Total Funds - - - £19,031,200**

**Income - - - - £7,139,552**

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ABSOLUTE SECURITY. MODERATE RATES OF PREMIUM. LIBERAL POLICY CONDITIONS.

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**Head Offices:**

**LIVERPOOL:**  
1, North John Street.

**LONDON:**  
24-28, Lombard St., E.C.

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## THE RAILWAY TIMES.

Established 1827

PUBLISHED EVERY SATURDAY

Annual Subscription post free, 25 shillings.

All communications for the following issue should be received not later than 6 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

Money Orders, Cheques, etc., should be drawn in favour of THE RAILWAY TIMES, and should be crossed "National Bank."

Telegraphic Address: "Altimetry, London." Telephone No. 2048 Gerrard.  
Offices: 12, Norfolk Street, London, W.C.

## AMERICAN AND BRITISH RAILWAY RATES.

After what seems like a good deal of delay, the hearing has been begun by the Interstate Commerce Commission of the United States in connection with the application by a large proportion of the American railway companies for liberty to make a general increase of five per cent. on freight charges. It was inevitable, however, that much time should be occupied in preparing the case for the railway companies. The interests concerned are enormous, and so is the complexity of details. All the railways working in what is called the official classification territory are included, this territory being all that part of the United States east of the Mississippi and north of the Ohio and Potomac Rivers. The Commission met on November 24 and sat again on the following day, after which an adjournment was made till Wednesday last. At the hearing there is a representative gathering of the most influential railway interests in the territory affected, while traders and manufacturers who oppose an increase are also fully represented. The presentation of the railway case is in charge of a committee of railroad presidents, including Mr. Daniel Willard, President of the Baltimore and Ohio Railroad; Mr. Samuel Rae, President of the Pennsylvania Railroad, and Mr. C. W. Brown, New York Central Lines. On the opening days elaborate statements, coupled with voluminous statistics, were made by such eminent railway men as President Daniel Willard, to whose evidence allusion is made in another column; President F. A. Delano, of the Wabash Railroad; Mr. W. C. Wishart, for the New York Central Railroad; Mr. C. M. Bunting, for the Pennsylvania Railroad, and others. The case which they were able to put forward is much stronger than that of the unsuccessful similar application of 1910, and the railway companies are taking steps to secure the widest publicity for the evidence given by their representatives as they desire that the public shall be fully informed of the nature of the case. Notwithstanding the great increase in business and in gross receipts, the railways continue to show decreases in net earnings due to the steady increases in capital charges, wages and taxes, to burdens imposed by legislative enactments, to the elimination of level crossings at the expense of the railways, and to various other things. A few suggestive figures may be quoted in round numbers from the consolidated statistics for all the companies concerned. During 1912 the gross earnings of the railways increased their property investment by nearly 600 million dollars. The gross earnings rose by 187 million dollars, but the working expenses and taxes rose by 203 million dollars, so that despite the large addition to the gross earnings the net earnings were 116 million dollars less. The result has been seriously to check railway expansion and improvement. The way is barred against reducing wages or increasing passenger fares, so that the companies contend that if the railway system is to be developed at further vast capital cost to meet the growing demands of the country, and if the companies are to be able to hold out any hope to investors of a reasonable return on increased or even existing capital, it is

necessary to raise rates on goods and minerals. The case for the companies in fact seems so strong that were it not for the prejudice so widely felt against them by certain large sections of the American public, it can hardly be doubted that their request would be readily acceded to. It is worth noting that the five per cent. increase, if granted, will be applied without disturbing differential rates which have been established through years of adjustment and adjudication. The process of adjustment of inequalities will go on in the future as in the past. The heads of our British railway companies, when they consider the present situation in America, must feel that, troubled though our undertakings are, their position is better than the position in the United States. If the British companies were under the necessity of making great extensions at heavy capital cost, they would, no doubt, in the present state of the money market find many difficulties. That necessity does not, however, exist here at present, although large sums must be found within a few years for electrification schemes. For the moment the problem of British railways is confined to maintaining reasonable dividends on present capital. That difficulty, however, is the greater because of the high capital cost per mile of British railways. On the other hand, under the provisions of the Railway and Canal Traffic Act of this year, there is reasonable hope of getting increases in many goods rates to meet the cost of increased wages to employees. No great case embracing all the railways of the country and all freight rates has to be prepared and brought before a national tribunal, and it may be hoped that a few of the individual complaints which may be brought before the Railway and Canal Commission will result in settling the majority of other complaints.

### CANADIAN PACIFIC CAPITAL.

THE event of the week has been the disclosure by the Canadian Pacific Board of its financial scheme to deal with the land assets, which has been expected for some years past, and regarding which a statement was made by the President at the annual meeting in October last. The large and growing value of the land owned by the Canadian Pacific is more or less generally recognised, and it was hoped by the shareholders of the Company that a handsome bonus would be available sooner or later in connection with this asset, a considerable proportion of which has been realised by the company, and the proceeds of which have not hitherto been distributed, except in the form of a small dividend, representing interest on the capital proceeds for land sales and on instalments unpaid. The particulars disclosed this week, however, are distinctly disappointing because, although the land is valued at 4 to 5 dollars per 100 acres, it is coupled up with a big financing scheme, involving the payment of 100,000,000 dollars of a further 8½ million pounds sterling in cash. The apparent intention is to provide a special investment fund of 55 million dollars, or say 11 millions sterling, and against this fund 52 million dollars of 6 per cent. notes will be issued to the shareholders at the rate of 100 dollars per cent. The 6 per cent. interest will be guaranteed by the Canadian Pacific, and the 100 dollars of the capital represented thereby on 100 shares of 100 dollars each. The notes will certainly command a high price, and consequently the bonus conferred on the shareholders will be only 55 million dollars, or say 11 millions sterling. The proceeds of the land sales, namely 57 million dollars to the share capital of 260 million dollars, is exactly one-third of the 100,000,000 dollars, and represents the 100,000,000 dollars of the 100 shares of 100 dollars each. The 100,000,000 dollars of the 100 shares of 100 dollars each, and the 57 million dollars of the land sales, are the 100,000,000 dollars of the 100 shares of 100 dollars each, and the 57 million dollars of the land sales, are the 100,000,000 dollars of the 100 shares of 100 dollars each.

sterling is anything but well received. Only in October last the shareholders of the Canadian Pacific completed payments of the final instalments on an issue of 60 million dollars in stock at a price of 175 per share, representing in cash a total of 21 millions sterling. The last balance-sheet of the company disclosed cash in hand as at June 30 last of 30½ million dollars, or, say, over 6 million sterling. Having regard to the instalments since paid, and to the proposal to raise a further 8½ million pounds sterling, in connection with the 6 per cent. notes, it can only be assumed that the programme of expenditure which the company has in hand is a stupendous one, and that the company is taking the opportunity of raising funds in anticipation of these requirements. The Canadian Pacific has been a highly successful enterprise, but the growth of its obligations has been enormous, as the following comparison will show.

Statement of Canadian Stock	
Under the Canadian Pacific Company's Act, 1881	\$65,000,000
Decrease in 1902 to 1903	84,500,000
1904	110,000,000
1905	150,000,000
1906	200,000,000
1907	260,000,000

The present value of the common stock alone is nearly 120 millions sterling, whereas as recently as 1895 it was less than 5 millions sterling.

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways of the United Kingdom for the week ended December 7 gives a total of £2, 127,938, which was earned on 21,934 miles, being at the rate of £97 os. 3d. per mile of line open. For the corresponding week of 1912 the receipts of the same lines amounted to £2,100,811, with 21,857 miles open, or £96 2s. 3d. per mile. Thus there was an increase of £27,127 in the receipts, an increase of 77 in the mileage, and an increase of 18s. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £23,316 (or 19s. 2d. per mile) in the passenger receipts and an increase of £4,483 in the receipts from goods traffic. Owing to the increase in the mileage there is no change in the rate earned per mile. The aggregate increase of the thirty-six railways for the forty-nine weeks in the passenger receipts has been £3,020,710, while the aggregate increase in the goods traffic was £4,050,410. The aggregate receipts of the fifty railways for forty-nine weeks (December 29 to December 7) amounted to £114,193,827, in comparison with £106,933,640 last year, an increase of £7,260,187, not including receipts from certain canals, etc.

### SETTLEMENT OF THE WELSH RAILWAY STRIKE.

AS A result of a conference at Swindon between Mr. G. J. Churchward, locomotive and carriage superintendent of the Great Western Railway and a deputation of the South Wales employees of the company, the railwaymen who had left their work under the circumstances reported last week were reconciled with two exceptions. The latter were the men who sought notoriety in connection with the Dublin dispute. The company insisted upon every man who had struck being penalised, but eventually it was agreed that they should return without penalisation of any kind other than that the deputation agreed to recommend to the men a contribution of Mr. Churchward, that each one should subscribe from 1s. to 2s. 6d. to the Swindon Victoria Hospital. Mr. Churchward has stated that 60 per cent. of the men who were out did so without compulsion and were deliberately and willingly doing so. One of the strike leaders has admitted receiving no money as outsider. An unauthorised person sent word all over South Wales calling on the men



# MONEY AND STOCK MARKETS.

## SETTLEMENT DAYS.

Continuation Days.

Continuation Days.	Ticket Days.	Pay Day.
General .... Dec. 21	Mines ..... Dec. 2	Dec. 11
General .... " 27	General ..... " 2	" 11
General .... " 27	Mines ..... Jan. 1	Jan. 13
General .... " 27	General ..... " 11	" 13
General .... " 27	Mines ..... " 2	Jan. 13
General .... " 27	General ..... " 2	" 13

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Same Week Last Year.
Bank's Coin and Bullion	£38,048,304	£38,048,304	£38,048,304
Proportion of Reserve to Liabilities	55.85 p.c.	55.14 p.c.	48.08 p.c.
Notes in Circulation	£28,579,520	£28,579,520	£28,579,520
Open Market Discount	5 p.c.	5 p.c.	5 p.c.
Bankers' Clearing House	£354,586,000	£354,586,000	£354,586,000
Silver bars, per oz. (spot)	25 1/2	25 1/2	25 1/2
Consols (account)	85f. 50c.	85f. 50c.	85f. 50c.
French 3 per cent. (acc.)	25 1/2	25 1/2	25 1/2
Paris Cheque exchange	25 1/2	25 1/2	25 1/2
New York 60 days ditto	25 1/2	25 1/2	25 1/2
Rio de Janeiro exchange	25 1/2	25 1/2	25 1/2
Valparaiso 90-day exche	25 1/2	25 1/2	25 1/2
Calcutta transfers	1s. 4 1/2d.	1s. 4 1/2d.	1s. 4 1/2d.
Hong Kong transfers	1s. 11 1/2d.	1s. 11 1/2d.	1s. 11 1/2d.
Shanghai transfers	2s. 10 1/2d.	2s. 10 1/2d.	2s. 10 1/2d.

The figures of the Bank Return this week indicate that there has been a further demand within the country for coin, the sum taken being apparently about £290,000. Such a withdrawal is what might be expected to occur at the approach of the Christmas season, but coming as it does immediately after the large amount which was taken last week, it is a further indication that the latter is to be ascribed to the action of joint-stock banks to strengthen their reserves. The movement may be regarded as a reassuring indication of cautious and conservative management, such as is universally imputed to our leading joint-stock banks, or it may be looked upon as an indication that trouble is brewing somewhere, to cope with which extraordinary measures are deemed necessary, according to the temperament of the reader. There can be no doubt that the high rates of interest for money which have prevailed during the last twelve months and more, must have caused a good deal of trading that promised well to prove disappointing, but there is no evidence as yet of any acute financial difficulties in this country. During the week sums amounting to £286,000 were received by the bank from abroad, most of which was in bars, and there were no withdrawals; also the active note circulation £206,000, which is over two millions above the level which obtained at the corresponding date of last year, and makes a very satisfactory showing. The remaining movements are not large. The market was able to repay part of its indebtedness to the Bank, as is seen by the decline of Other Securities by £430,000. Public Deposits at the same time

increased £120,000, while Government Securities were unchanged. Other Deposits were consequently reduced, and declined to the extent of £376,000. As the result of all changes the rates of Reserve to the liabilities is half a per cent. higher at 55 1/2 per cent.

On the stock market the Home Rail market ended. The settlement which occurred in the middle of the week was the settlement of the Home Rail market to have been made to give a cheerful aspect to the list of making-up prices. This was all the easier because the speculating section of the public were not sufficiently concerned to render it likely that any moderate rise would precipitate a bout of selling. The amount of floating stock in the Home Rail market is particularly small. Firmness among foreign and international bonds was a favouring indication for a forward movement, but the apathy of the speculative public, while it facilitated an advance in quotations, was no help in sustaining them. Hence after the settlement the usual consequences of lifeless business quickly ensued and prices dwindled.

On Saturday, news that the strike on the Great Western Railway had been settled, and on terms which were satisfactory to the company and a testimony to the wisdom and reasonableness of the men's leaders, did much to improve the outlook in Home Rails, and this market was the most cheering of any in the House, though Canadas rose and Mexicans were better. Foreign bonds remained firm, but some weakness developed in British Government stocks. This latter aspect became more pronounced on Monday, when it became known that the underwriters of the last Canadian loan had been left with four-fifths of it on their hands. United States railways rose, owing to an improvement in the financial position there, and in Home Rails a further advance took place. The next day, the carry-over occurred, the charges being much the same as last time. The making-up list showed many satisfactory rises. Of the twenty most active and well-known foreign and international bonds dealt in here, few recorded any declines, and the average of all movements worked out as a rise of 1 1/2 per cent. The dozen leading stocks in the Home Rail market were higher on an average by 2 per cent., which is additional to an average advance of 3 1/2 per cent. for the previous account. On the month from mid-November to mid-December, these stocks have put on about a year's income. On this day, however, the rises recorded did not fully equal the amount of the charges for contangoing them, and actual declines of 1/2 or 1/4 occurred in Caledonian Deferred, Great Northern Deferred, South Eastern "A's," and Great Central "B's." Consols were again lower, reaching 7 1/4, another record. The proposals of the Canadian Pacific directors to distribute 6 per cent. notes at a discount to their shareholders instead of a cash bonus as was expected, caused much disappointment. The price rose a little at first, but soon declined, as no one seemed pleased with this device distribution by borrowing. On Wednesday and the following day small declines in Home Rails continued, but British Government securities rather improved than otherwise, and the firmness of foreign government securities was noteworthy. It was due in a great measure to better prospects for the disentanglement of finance from politics in France. Among foreign railways San Paulo made a good advance.

On Friday the markets opened in a condition of idleness, but Consols were steady, and as the day went on a certain tendency to revival was discernible in Home Rails. Deferred, North British Deferred and Chatham, owing to dividend prospects, Mexicans were weak and foreign railways also tended to give way, while irregularity characterised the markets in United States railways and in foreign bonds. The best news was that the German Bank Rate was reduced to five per cent., but it was stated

that it was likely a million sterling would be taken from the Bank, only next week for export to South America.

The movements of the week are set forth below:—

Name of Stock.	Rise.	Fall.	Name of Stock.	Rise.	Fall.
<b>Grand Trunk of Canada.</b>					
Consols, 2½ per cent.	—	—	Do. 2nd Preference.	—	—
Do. (acc.) 2½ per cent.	—	—	Do. 3rd Preference.	—	—
<b>British Railways.</b>					
Atchison Common	—	—	Baltimore and Ohio	—	—
Do. Pref. Con. Ord.	—	—	Chesapeake and Ohio	—	—
Do. Def. Con. Ord.	—	—	Chicago Gt. Western	—	—
Central London	—	—	Chicago M.&N. S. Paul	—	—
Do. Deferred	—	—	Erie Common	—	—
City and S. London	—	—	Do. 1st Preference	—	—
East London Con.	—	—	Do. 2nd Preference	—	—
Furness	—	—	Illinois Central	—	—
Great Central Pref.	—	—	Louisville & Nashville	—	—
Great Eastern	—	—	Missouri Kans. & Texas	—	—
Gt. Nthn. Pref. Con. Ord.	—	—	New York Central	—	—
Do. Def. Con. Ord.	—	—	N.Y., Ont. & Western	—	—
Great Western	—	—	Norfolk & Western	—	—
Hull and Yorkshire	—	—	Do. Preferred	—	—
Lancashire & Yorkshire	—	—	Pennsylvania	—	—
London, Br. & S. Coast	—	—	Reading Common	—	—
Do. Deferred	—	—	Southern Pacific Com.	—	—
London Chat. & Dover	—	—	Southern Common	—	—
London & N. Western	—	—	Do. Preferred	—	—
London & S. Western	—	—	Union Pacific	—	—
Do. Def. Con. Ord.	—	—	U.S. Steel Corp. Com.	—	—
Metropolitan District	—	—	Do. 7 p.c. Cum. Pref.	—	—
Midland Def. Ord.	—	—	<b>Foreign Railways.</b>		
North British Pref. Ord.	—	—	Antofagasta Def. Ord.	—	—
Do. Def. Ord.	—	—	Argentine Gt. Western	—	—
North Eastern Cons.	—	—	Buenos Ayres & Pacific	—	—
North Staffordshire	—	—	Buenos Ayres Gt. S. Atl.	—	—
South Eastern	—	—	Buenos Ayres Western	—	—
Do. Deferred	—	—	Central Argentine	—	—
Taff Vale	—	—	Cent. Uruguay of Mont.	—	—
Underground Electric	—	—	Cordoba Cent. Ord.	—	—
Do. 4½ p.c. Bonds	—	—	Do. 1st Pref.	—	—
Do. 6 p.c. Bonds	—	—	Costa Rica	—	—
<b>Colonial Railways.</b>					
Canadian Pacific	—	—	Cuba Central	—	—
Grand Trunk of Canada	—	—	Leopoldina	—	—
Do. 4 p.c. Guaranteed	—	—	Mexican Ordinary	—	—
Do. 4 p.c. Guaranteed	—	—	Do. 1st Pref., 8 p.c.	—	—
Do. 4 p.c. Guaranteed	—	—	Do. 2nd Pref., 6 p.c.	—	—
Do. 4 p.c. Guaranteed	—	—	Nitrate Ordinary	—	—
Do. 4 p.c. Guaranteed	—	—	Ottoman (Smyrna to Aidin)	—	—
Do. 4 p.c. Guaranteed	—	—	Emp. of Havana Ord.	—	—

### BANK RETURN.

The return of the Bank of England for the week ended November 11, 1913, compared with that for the previous week, shows the following changes:—

£	BANKING DEBITMENT.	£	Dec. 1 <sup>st</sup> , 1913.	Increase.	Decrease.
<b>Reserves.</b>					
Gold	5,197,088	3,207,399	14,011		
Notes	7,710,047	7,889,286	129,016		
Other	10,510,183	35,511,796	376,017		
Total	23,417,318	46,608,481	519,044		
<b>Deposits.</b>					
Current	11,114,193	11,181,993	67,800		
Time	1,114,193	1,114,193	—		
Total	12,228,386	12,296,186	67,800		
<b>Other Assets.</b>					
Government Securities	1,121,117	1,377,811	256,694		
Other	—	—	—		
Total	1,121,117	1,377,811	256,694		
<b>Liabilities.</b>					
Capital	—	—	—		
Reserves	—	—	—		
Deposits	—	—	—		
Other	—	—	—		
Total	—	—	—		
<b>Profit and Loss.</b>					
Profit	—	—	—		
Loss	—	—	—		
Total	—	—	—		

### MISSOURI, KANSAS AND TEXAS RAILWAY.

8					
8					
8					

### UNDERGROUND RAILWAY IMPROVEMENTS.

#### ESCALATORS TO BE INSTALLED AT BUSY STATIONS.

More than 14,000 persons travelled from the new Waterloo Station of the Bakerloo Railway on the opening day. Passengers to places on the Great Western Railway may book through on the Underground as far as Reading, and more tickets were taken to that place than any other on the system. Access between Paddington terminus and the underground station is given by two escalators and by staircase. Mr. J. P. Thomas, superintendent of the London Electric Railway, states that the company will not construct any more lifts, which now number 240. At all busy stations moving staircases are to be substituted wherever practicable. The Paddington escalator is in a tunnel, 22ft. wide, the same size as a station, at an angle of 60 degrees, with 46 steps. There are two moving staircases and one stationary one. The moving ones will carry 10,800 people an hour, or, allowing for the people who walk up or down, 16,000, and about half the number can go up the stationary staircase. For dealing with rush traffic one staircase can be quickly reversed, so that 40,000 persons an hour will be able to use the staircases in one direction.

#### BRITISH MUSEUM STATION TO BE REMOVED.

The Underground Railways have decided to remove the British Museum Station to a site next to that of the Holborn Station on the Piccadilly Railway. The new stations will be connected, and there will be escalators to and from the platforms.

#### METROPOLITAN RAILWAY TO ERECT AN HOTEL.

Sir Joseph Lyons, presiding at the annual meeting of the Strand Hotel, London, said the Metropolitan Railway Company were to erect a large hotel on the side of the Baker Street Station, and when it was completed the Strand Hotel Company would lease it for a term of eighty years. It would, however, be quite two years before they obtained possession of the building.

### ALL-STEEL "LUNCH COUNTER CAR."

The Pennsylvania Railroad has completed a new solid steel lunch counter car, which has been placed in service between New York and Philadelphia on trains also carrying ordinary dining cars. It is intended to continue the experiment for a sufficient period to determine which is more popular with the travelling public. The object in building the counter car was to see if it would permit of serving meals to passengers quicker—and thus serve satisfactorily more patrons—than is possible in a dining car. The new car is 80 feet long, and the exterior appearance is the same as that of an all-steel passenger coach. Instead of tables there is a mahogany counter extending over half the length of the car; facing this counter on one side are revolving mahogany chairs, secured to the floor. This counter is long enough for 21 people to be seated at one time. Against the wall there are 20 cupboards for supplies, in addition to receptacles for crushed ice, drinking water, ice cream, milk and cream. Shelves for linen and silver occupy the space under the counter. Sunk in the counter at the end away from the kitchen is a cigar humidor, and one end of the car there is a wash-basin for the use of passengers. The pantry and kitchen are at one end of the counter. Food will be passed from the kitchen into the pantry through openings which can be closed by sliding doors. As these openings are just above the revolving table in the pantry, there is no necessity for waiters to go into the kitchen. The kitchen itself is about 10 feet long. It contains a range, broilers, steam tables, ice box, coffee urn, soup receptacle, and meat warmer. The car will be electrically lighted, and ventilation will be aided by a mechanical fan and three large electric fans. The car will have one or two lavatories. Philadelphia for New York on Monday and the train is usually heavily loaded, and a large number of the passengers, as a rule, eat their lunch on the train. The second trip of the car will be on the train leaving New York the same afternoon at 6 o'clock.

**Tunnel Ventilation.** The complete plan is being installed by the American Southern Railway for improving the ventilation of the Atlanta tunnels. The tunnels, most of which are 100 to 150 feet in diameter, will be ventilated by a system of fans and ducts.

## THE COMING CRISIS.

There are many indications that we are approaching one of those financial crises with which the world's progress in trade development is more or less evenly punctuated. The smaller increment in the receipts from goods traffic now being published by the railway companies is an example; another is the diminished amount of trade now being carried on with foreign countries and colonial possessions as recorded by the Board of Trade. Moreover the Bank Rate, which has always been accepted as the best barometer of the course of events in financial affairs, has averaged 4½ per cent. for the last twelve months, a figure which may be less, but is certainly not likely to be more, than that which will obtain when we have reached the end of 1913. In 1880, the year of the Baring crisis, the average Bank Rate was 4.52 per cent. In 1900, a less critical year, it was only 3.97 per cent., while in the most recent crisis, that of 1907, 4.95 per cent. was the average attained, and to that figure we are already suspiciously close. Nothing, however, is more misleading than the notion that the future will mechanically reproduce the past. This is what never does take place. History, it is true, repeats itself in some respects; in what respects we never know till the time comes. An intelligent anticipation of events can only be based upon an intelligible account of the causes at work and the effects to be ascribed to them.

An attempt was made in these columns on August 16 and 23 last to explain how rates of interest and discount were usually affected by variations in the quantity of money and the volume of trade, and a diagram illustrating movements of the former in relation to the general level of prices in markets for staple commodities and for Stock Exchange securities was given, and is here repeated in Fig. 1 to facilitate reference. It will be seen that while for uneventful years a figure less than the composite index number by 1.69 has closely approximated to a tenth of the Bank Rate, the latter has in recent times been nearly 1 per cent. less than is indicated by this rule. Other discrepancies apparent on the diagram are nearly all of the contrary kind. The most conspicuous are in years when failures occurred; the greater the failure the more conspicuous the discrepancy. That of 1890 marks the Baring failure, that of 1907 the inability of American banks to pay cash in the autumn of that year. In 1893 a like failure among the banks of Australia, though worse in degree, was smaller in amount, and ten years later a corresponding discrepancy marks the failure of numerous industrial trusts in the United States. The diagram also shows a wide divergence of the same kind for the years 1886, 1887, and 1888, but this is more apparent than real because the aggregate market values given in the *Bankers' Magazine* during those years from which the index numbers for Stock Exchange securities are derived comprised Consols to the extent of nearly 30 per cent. Now the price of Consols was at that time maintained about par, the reason being that a conversion scheme was known to be imminent; much higher quotations would have ruled but for that. It was this state of things that rendered the Goschen conversion of 1888 the success it was. So the figures of the *Bankers' Magazine* yield lower index of prices for these years than corresponds to the actual state of the market. For the crisis of 1900 there is no marked discrepancy; but this was a crisis precipitated not by failure in finance, but by obstruction to the flow of exchange following upon an outbreak of war in which this country was engaged. The devotion of circulating capital and labour to military purposes accompanied by the diversion of fixed capital to unproductive purposes necessarily arrested the progress of trade, and the abrupt contraction of credit which followed is reflected in the discrepancy to be observed for the year 1901.

The only marked discrepancy of the same kind as that which characterised the last two years is seen in 1905, when the consequences of the Russo-Japanese war were reflected in these markets. In the light of this review, it seems reasonable to ascribe the divergence which extends over 1901 and 1912 to the wars carried on against Turkey in the Near East, accompanied as they were by mobilisations of troops in Russia and Austria having a like economic effect, and supplemented no doubt in some degree by disturbances in Mexico and China, as well as the strike of coal miners in this country. Indeed, it would be a surprising thing if the long-dreaded Balkan eruption, the most considerable of military operations

in Europe during the period under review, had occasioned no irregularities to the course of business in England.

The relation between prices and rates of interest, which the diagram given in Fig. 1 is designed to illustrate, depends upon the maintenance of two conditions, both of which are fairly well fulfilled when trade is normal, but cease to apply in times of commercial panic and in times of war. The first condition is that bankers and dealers in credit should be engaged in competing with one another to sustain or enlarge the spheres of their several businesses. This condition no longer holds in times of commercial crises arising out of failures such as occurred in 1890 and 1907. Indeed, the aim of bankers at such times is rather to limit or reduce the sphere of their operations. Rates of discount and interest are deliberately advanced with this object and, competition being in abeyance, can be pressed until it is attained. Again, the relation illustrated by this diagram involves an assumption that the general level of prices at one time may be compared with that of another by means of index numbers. This is a large assumption, never more doubtful than when the times compared are those of peace and war. The unit of measurement implied in this case is an aggregate of samples in which all things bought and sold are adequately represented. The composition of such a unit must be different in times of peace and war because the occupations of the people and the character of their consumption is different. Now the index numbers actually employed are obtained from the average prices of a limited number of staple commodities and Stock Exchange securities. Index numbers constructed in this way have been found to compare the general level of prices in years of peace one with another with serviceable accuracy, and possibly may serve to compare the general level of prices in times of war one with another, but necessarily fail to effect fair comparisons between years in which conditions are so different as those in the first and second cases. Staple commodities are in great demand in times of war, while many others are neither wanted nor produced, so the recorded index number is always too high. Moreover, when war is declared amidst scenes of popular enthusiasm, the peoples concerned regard the State as they would a great *entrepreneur* embarked upon some immensely profitable venture; at the same time gold may be hoarded or released from hoards, plate may be melted down, and bullion is sure to be exported. Thus the relative composition of money in use also undergoes a change; that is to say, the proportion of cash to credit is altered. England being the home of free trade and the money market of the world, her business is affected by all wars of any importance wherever they occur; on the other hand, the effect of bad harvests, which would be of a similar character, she generally escapes, because although crops always fail somewhere they are never everywhere a failure.

The relation 
$$\frac{F}{M} I \propto R,$$
 illustrated in Fig. 1, may be written

$$F I \propto M R$$
 of which the first term, if it has any meaning at all, must furnish an indication of the turnover of trade. The second, of course, represents the earnings of the money employed in effecting it. The former may be gauged by the figures of the Bankers' Clearing House per annum; the latter by the amount of deposit and current accounts held in the country, multiplied by the average Bank Rate for each year. This is illustrated in Fig. 2, in which a longer period is embraced than was possible in Fig. 1, as the necessary statistics are available from an earlier date. Here as index numbers are not required to estimate the amount of clearings, discrepancies due to the imperfections of compiled index numbers do not appear, and while the incidence of wars leaves no appreciable trace, the dates of commercial crises, from what ever cause arising, are as well marked as in Fig. 1, that of 1882 precipitated by failures on the Paris Bourse being additional. The gauges for  $F I$  and  $M R$  here employed are, however, in other respects still more imperfect than those seen in Fig. 1, chiefly for the reason that they do not cover exactly the same ground. Some of the business passing through the London Clearing House is done with foreign money, unrepresented in the deposit and current accounts comprised. Since the Boer War in 1900, as much as a hundred millions sterling of French money has been sent at times to have been in employment here. The lines of this diagram therefore, show considerable irregularities since that date. That the earnings of the



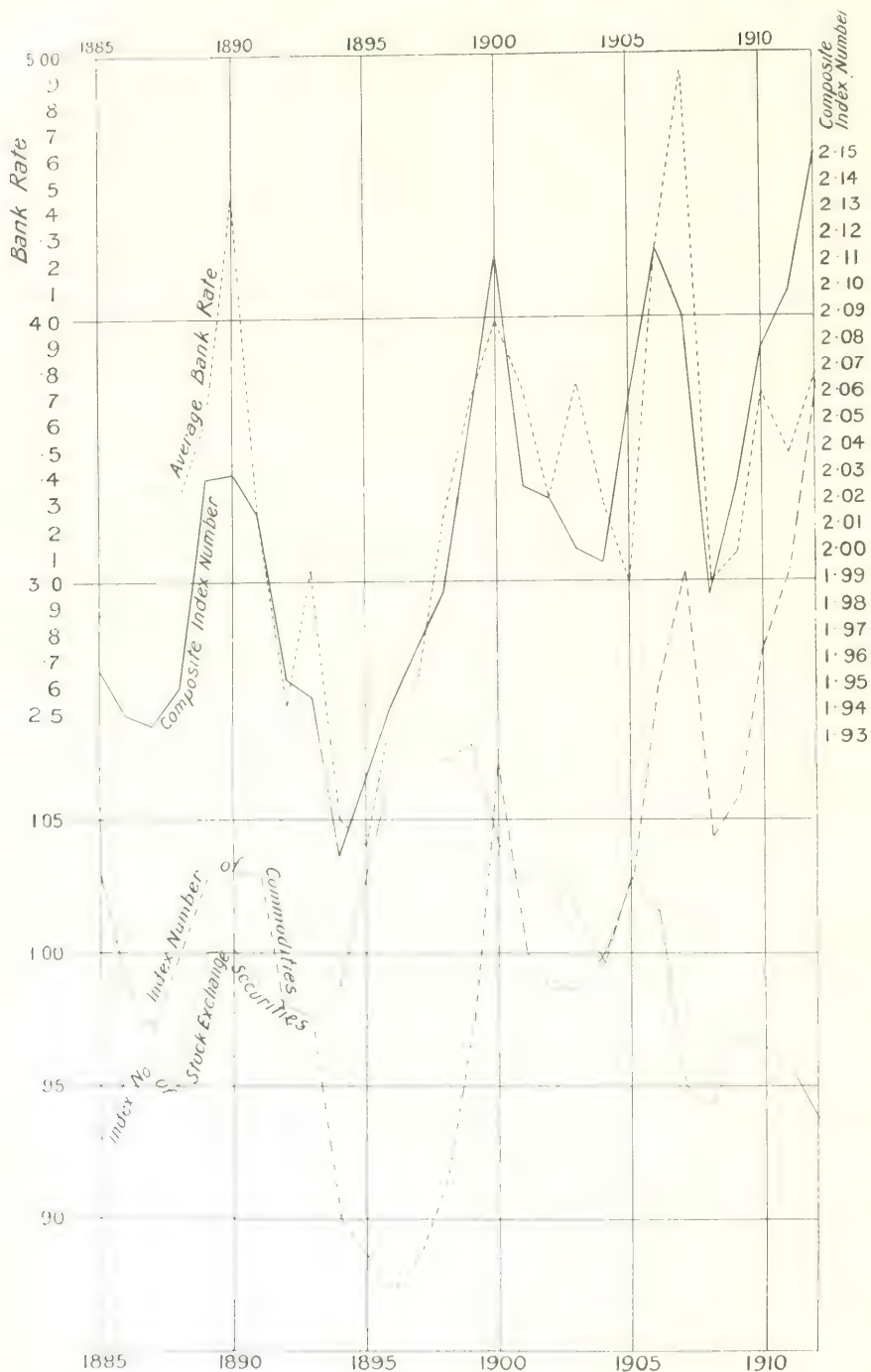


Diagram showing the relation of the Bank Rate to Prices of Stock Exchange Securities and Commodities.

money employed should vary with the price of gold, which might be expected to be in the ratio of the worth of gold that makes the total export of British produce to the import of foreign and colonial produce—re-exports deducted—in sterling per annum, as a gauge of the former, the product of the deposits and average Bank Rate as already defined stands, for the first five years of the period, in almost the same ratio to it as for the last five years, both being approximately 3 per cent.

Before leaving the subject of discrepancies in the diagrams, it is well to refer to the question of gold supply, to which so much attention is now being directed. The annual output of gold for the world has quadrupled during the period considered. It must, of course, be remembered that the stock of gold is enormous, and that it requires many years of increased output to sensibly augment it, particularly as consumption of gold in the arts has greatly increased at the same time. Moreover, the world's transactions in number and magnitude must have swollen almost if not quite as fast as the quantity of gold in stock. Besides, this gold must be in actual use for the purposes of exchange if it is to have any influence on prices: gold retained for contemplation is without effect, and there is no evidence to show that the proportion

commodities has altered but little during the past ten months but that for Stock Exchange securities has fallen 3 per cent, making the composite index number about 2.11, which should correspond with a Bank Rate of 3½ per cent, instead of 3½ per cent. The present position is, therefore, one which characterises the approach of a commercial crisis of the kind brought about by financial failure.

Stock Exchange securities have been fabricated of late years faster than the public have saved capital. They have been issued in many cases by harassed debtors who must place their issues or fail in their monetary obligations. Each new issue furnishes a basis for more loans from the banks. Bankers have to protect themselves by charging higher rates of interest, which create further embarrassments among debtors and so lead to further abortive issues of Stock Exchange securities. This process generally ends in failure somewhere.

### DEMAND FOR RAILWAY FACILITIES IN THE UNITED STATES.

The railroads of the Eastern District of the United States, which are now applying for a 5 per cent. increase in freight rates have filed with the Interstate Commerce Commission a statistical exhibit showing the growth of population, railway building and railway traffic during the past decade. The territory from which these statistics have been drawn is substantially that part of the United States east of the Mississippi River and north of the Potomac and Ohio Rivers. There are some 49 railway systems in this territory, and reference to the Interstate Commerce Commission records shows that in 1903 they were operating 55,706 miles of line. This does not include double trackage or sidings—merely the distance between terminal stations. In the decade succeeding—that is, through the year 1912—the increase in new line was only 3,619 miles, or about 302 miles a year; less than one mile a day over this immense territory. Reduced to a percentage, the increase amounted to 6½ per cent.

In 1909 and 1910, only 52 miles and 190 miles respectively of new line were constructed. While the percentage of increase of 1912 over 1903 was 6½, that of 1912 over 1910 had dropped to less than 1½ per cent.

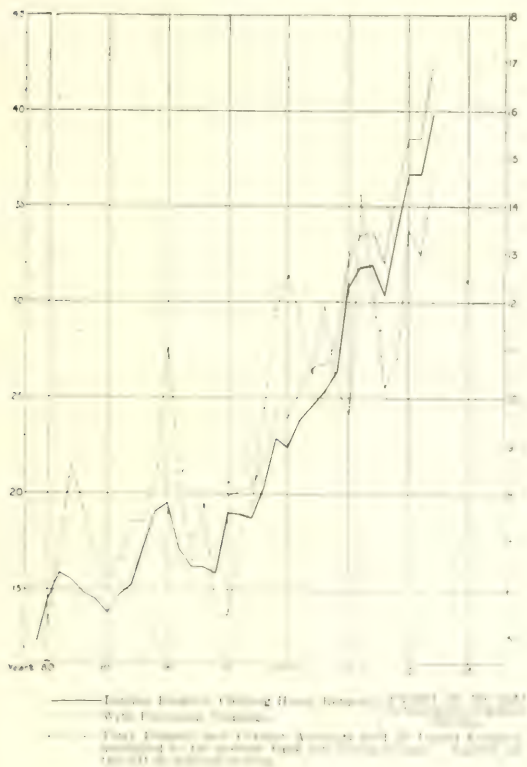
During the period of ten years these 49 railroad systems double-tracked—or, where there were double tracks, added a third or fourth track—over 10,465 miles of track, or an average of almost 1,050 miles a year. Thus they had 151 per cent. more track in 1912 than in 1903. The increase of 1912 over 1910 was but 3.54 per cent. In 1903 these systems had a total of 95,349 miles of all kinds of tracks, including double tracks, yard switching tracks and sidings. This had grown to 115,683 miles by 1912—an increase of 21½ per cent., or an average increase of 2,160 miles a year. The increase of 1912 over 1910, however, was only 4.17 per cent.

In 1903 the population of this section of the United States was 36,381,024. By 1912 it had increased by more than six millions—an annual average growth of 612,000. The population in 1912 was almost 17 per cent. greater than in 1903; and in 1912 3.62 per cent. in excess of what it had been in 1910, i.e., 41,021,267 as against 42,508,230.

Thus in ten years' time these same railroads had come to have 117 persons to serve where previously they had had 100. They had but 106½ miles of new extension track as compared with every 100 miles in 1903. They had 115 miles of double trackage for every 100 miles they had had, and 121 miles of track facilities as compared with 100 miles in 1903.

In other words, the 17 per cent. of increased population in this decade, while it found an increase of 15 per cent. of track facilities, found that 15 per cent. of the increase in double, third and fourth tracks and sidings constituted the intensive development of the railroads rather than the extension of their lines.

Railway traffic, both freight and passenger, increased much faster than the facilities for handling either. In 1903, the freight traffic amounted to carrying one ton of freight 93,018,275,867 miles, or, to reduce it to an almost incomprehensible comprehensibility, this ton of freight, could such a thing have been possible, might have made almost four million odd trips around the globe.



of gold to credit, thus active, has advanced at all. Indeed, the discrepancies observable in Fig. 1. for the last two years are of the kind exactly contrary to that which would be brought about by a glut of gold in use for exchange. Hence if there has been a general lift of prices due to increased output of gold, it must have been accompanied by a corresponding lift of the basis on which rates of interest ultimately depend—i.e., the hire of loanable capital. According to some, this has actually occurred owing to waste in war during the last thirteen years, rendering loanable capital scarcer. In any case the discrepancies characterising the position of the lines representing rates of interest and general level of prices in Fig. 1 disappeared simultaneously with the waning of hostilities in the Near East. The average index number for

The passenger traffic in 1912 was the equivalent of carrying 100 million passengers, which means that the additional world girdling trips. The increase of the year 1912 over 1911 was 24 per cent. The annual average increase of the second half of the decade over the first half was 22 per cent.

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The passenger traffic in 1912 had increased 414 per cent., which means that the lone passenger was now carried 414 times as many passengers had been added to the railroad annual globe encircling trip. The passenger traffic also saw an increase of 22 per cent. in the annual average of 1912 over 1911.

The freight traffic increase correspondingly was 22½ per cent. As the percentage of increase of freight traffic in 1912 over 1911 was 22½ per cent., the freight traffic grew more rapidly since it attained an increase of more than 5 per cent.

Thus, as compared with an increase of 17 per cent. in passenger traffic, the freight traffic increased 53 per cent., and the passenger traffic 42 per cent. In other words, freight traffic increased three times, and passenger traffic more than twice, as fast as population. Between 1910 and 1912 the rate of increase in freight traffic was slightly greater than the growth of population, while the rate of increase in passenger traffic was almost twice as great as that of population.

Mr. Daniel Willard, President of the Baltimore and Ohio Railroad Company, in putting the case of the railroads before the Commission summed up the position concisely and clearly.

"The railroads in Official Classification territory have," he said, "increased their property investment for new tracks, stations, locomotives, freight and passenger cars, and for other similar purposes at the rate of approximately \$200,000,000 per annum during the whole of the last ten year period, and it is certain that the continued annual expenditure of a sum even greater than that will be necessary for similar purposes if the carrying capacity of the railroads in this territory is to keep pace with the normal growth of commerce."

"The immediate and all-important question is, How shall we meet this demand? The answer is, by increasing the carrying capacity of the railroads, and by doing so with the least possible expenditure."

## PERSONNEL OF THE INDIAN RAILWAY SERVICE.

Railway witnesses were examined at a sitting of the Public Inquiry Commission on December 10, 1913, under the presidency of Lord Islington.

As the Commission had previously suggested an increase of the cadre. During the last few years the Commission had been asked to consider the possibility of increasing the cadre of the Indian Railway Service.

The railway companies would be glad to again have Governmental control. The Commission had been asked to consider the possibility of increasing the cadre of the Indian Railway Service.

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ment's recommendation of 1911 that 10 per cent. of recruitment in railway engineering should be made in England. He saw no reason why there should be a limit to the appointment of Indians to the Provincial service, provided they were capable and had received sufficient English training. He recommended that the rate of the provident fund should be 10 per cent. If students could be trained at engineering colleges in India they would not be so well qualified as if they had been trained in England, as India did not get engineering work of the best standard. It would be a good suggestion if the same prospects as of old could be offered now. There should be no arbitrary rule concerning the employment of 10 per cent. of Indians. Railways were commercial enterprises, and the management should obtain as competent a staff as possible. He did not think it would be possible to recruit the best class of men in India. Asked if there was not a strong feeling that some recruits from England had not received a sufficiently practical training, he replied that the practice was that such a recruit must undergo a certain probation in India.

Mr. W. A. JONES, the representative of the Imperial engineers, said his experience of engineers coming out from England was small, and though he knew that some of them were very good, yet he considered that the average turned out was not so good now as in the days of Cooper's Hill College. The field of observation in railway construction work was wider in India than in any country in Europe. The workmen were better, but what was necessary in India was improvement of standard. Witness did not think at present an Indian was thoroughly equipped for an engineer's position, and also that the career of an engineer found very little favour in an Indian mind. He did not think they would get better results even if so efficient a college training could be given in India that it would be unnecessary for the engineer to go to England. Only Indians who were educated in England should be eligible for the superior branches. The pay of chief engineers should be raised from Rs.2,750 to Rs.3,000, and greater facilities should be given for more secretarial appointments. It was a grievance that owing to reorganisation they had lost three such appointments in Bombay, Madras and Burma. There was a strong feeling among junior officers that they were not eligible for leave unless they put in eight years' service. They wanted this suit to be reduced. There was difficulty in finding out suitable Indians who could be placed in administrative positions in the railways.

Mr. J. WOODSIDE, Chief Engineer with the Railway Board, was examined. He said that the views he expressed before the Commission in his memorandum were his personal views and not necessarily those of the Railway Board. He favoured recruitment from such an establishment as Coopers Hill. He was of opinion that if the Imperial and Provincial services were amalgamated into one service there would be a greater degree of proficiency among the officers. In this scheme all officers should be graded alike. He thought both Indians and Europeans should receive the same rate of pay if they did the same class of work. The training obtainable in Indian colleges was not so good as that which could be got in England.

Mr. H. D. GREEN, representative Provincial engineer, North Western Railway, said that he would like to see the distinction between the Imperial and Provincial services abolished.

## GREAT WESTERN'S RECORD SUMMER TRAFFIC.

The popularity of the Great Western Railway Company at the annual dinner of the Torquay Chamber of Commerce, Mr. Stanley Baldwin, M.P., a director, said he had been surprised to find that the traffic had increased to such enormous dimensions that Newton Abbot had become like the neck of a bottle. He thought that this summer had brought things to a crisis. The traffic this year down to the West from all parts of England had been beyond all precedent. He thought probably that traffic had come to stay. It had been helped very much from the fact that trade had been good, and in South Wales especially there had been a higher rate of wages than ever before. The colliers had been finding out the beauties of the West country, and coming down in enormous numbers. Of course that would not last for ever, but the traffic was expected to be very heavy which would have to be reckoned with.



# MECHANICAL HANDLING OF GOODS.

Mr. A. W. GATTIE, of the New York Central & Hudson River Railroad, has published from time to time in this journal, and on this is of interest to note that the company's electro-mechanical machinery for handling goods is shortly to be tested by two British and one French railway companies. On Tuesday last, also, at the company's works at Ingate Place, Queen's Road, Battersea, a demonstration of the experimental installation was given on the lines described and illustrated in THE RAILWAY TIMES of July 10.

Life of a Goods Wagon

In the course of his Glasgow discourse Mr. Gattie said that instead of groups of huge goods stations, where it was sometimes necessary to move too vehicles before a required vehicle could be reached, he proposed to substitute one comparatively small compact building, so designed as to render every vehicle in it immediately accessible and immediately available. A whole "human" horse-power hour cost 3s. 4d. This was based on the goods porter's wage of 4d. per hour and the ability to develop one-tenth of a horse-power by muscular effort. An electric horse-power-hour cost in Glasgow less

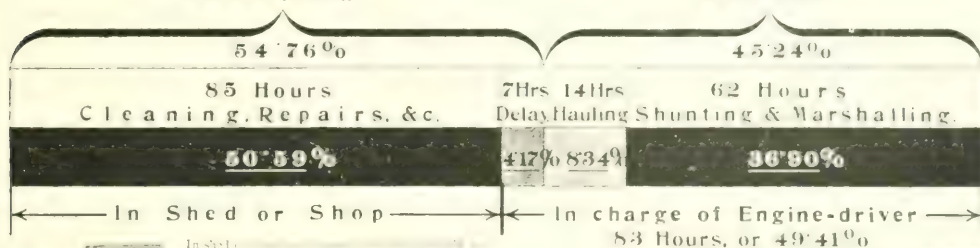
a very poor day's work, such, however, was the efficiency of a London van. Four hundred and fifty miles of vehicles stood still in London streets for nine hours per day. With the clearing-house system and by dividing their work into zones a better service could be provided with 5,000 motor vans than was now obtained from 120,000 vans.

With the aid of lantern views Mr. Gattie described the proposed remedy, namely, a goods clearing-house in London, and said that under clearing-house conditions trucks and containers would travel like shuttles between clearing-houses in London and Glasgow or elsewhere. For example, a fast goods train from Liverpool to London did the journey in seven hours. A 25 ft truck travelling between clearing houses in Liverpool and London could make three

and carry two containers each way. Box containers exactly similar to this were in daily use by carriers and by large firms, and were also used by the South Eastern and Chatham Railway for carrying luggage between London and Paris. Mr. Gattie estimates that the clearing-house would increase the efficiency of railway locomotives 300 per cent., add vastly to the active lives of goods wagons, and produce for the companies by the sale of their London goods yards a capital redemption of £20,000,000. The cost of the system is estimated at £14,000,000, and the net profit £6,205,000.

## INACTIVE

## ACTIVE



Inactive

In Shed or Shop

immobility on the track.

Active

In charge of Engine-driver

83 Hours, or 49.41%

Life of a Steam Locomotive.

active life, exclusive of pilot trips and terminal haulage.

than one halfpenny to which might be added another halfpenny for capital and maintenance charges for the machine. That was a total of 1d. instead of 4d., while the machine could do the work quicker and better than the man. What had labour got to say about it? He had discussed the point very carefully with the chiefs of the National Union of Railwaymen, and the secretary had written expressing the opinion that the scheme "would benefit not only the railway companies but also their employees."

Shunting absorbed about 62 out of each 76 active hours of the locomotive's life, or 81.57 per cent. If 81½ per cent. or anything like 41½ per cent. of the available energies of a locomotive were absorbed by shunting they were justified on that plea alone in asking whether shunting was advisable at all. By liberating locomotives from the work of shunting the railways would, according to his calculations, increase their efficiency by about 300 per cent. Mr. Gattie's figures regarding the life of goods wagons suggested that of the 1,400,000 railway wagons in use 97 per cent. permanently occupy sidings. In other words, 5,000 miles of railway wagons were permanently immobile.

The lecturer estimated that one hundred and twenty thousand trade vehicles were employed daily in London alone; the work done per day amounted to about 85,000 tons or three-quarters of a ton per vehicle, and the average distance of cartage might be estimated at three miles. To

## North Eastern Railway Officers' and Servants' Benefit Association

The North Eastern Railway Officers' and Servants' Benefit Association, which was formed in 1884, has the honor to announce that the annual meeting of the Association will be held on Monday, 15th December, 1913, at the Grand Hotel, London.

## Recognition on American Railways

The American Railway Union, which was formed in 1893, has the honor to announce that the annual meeting of the Union will be held on Monday, 15th December, 1913, at the Grand Hotel, London.

of yours. If and associate efforts that no unfair advantage would

all courtesies shown."

In the present accounts they had made a very important alteration. All lines which competed with them placed their profit in one single line showing such and such a figure, less depreciation, and one did not know anything about the business further than what that single line told. This company's figures in this respect must open almost appallingly voluminous, but

there was no part of it which the board had perceived reticence, and intended to preserve reticence hereafter, and that was in regard to the detailed particulars as to what constituted the revenue. They sat on reason with the shareholders their heart upon their sleeve while their competitors kept their hearts hermetically sealed—always supposing they had hearts. (Laughter.)

#### GENERAL RESULTS.

The report now presented was more interesting than any of the previous ones. It showed revenue of £5,298,948, which at all events proved the immense scope of the work. They had to deduct from that an external expenditure amounting to £1,134,875, which showed the net greater labour they had to perform in order to control this vast outlay. To deal with the general results of the year's work, trade had been far better outwards than homewards. The Suez Canal records supplied him with an apt illustration on this subject. In 1912 453 ships in ballast passed through the Suez Canal, feeling confident as to a favourable freight. In 1913 253 ships only passed through in ballast, and they were by no means confident that they would procure homeward freights. This company's mail steamers carried only very limited cargoes, but they carried altogether one-and-three-quarter million tons of cargo in their fleet, and they would have done much better, of course, if homeward business had been what they expected it would be. Their passenger trade was not too buoyant, because they had serious competition on the part of other lines at lower rates, but at the same time the figures for this year showed a fair increase over those of the previous year. Their Cape-Australia trade, which was now service, had been exceptionally well. They had had no insurance claims to any extent at all. In fact they would have had a magnificent year but for the heavy expenses, of which an increase of £100,000 and upwards in coal alone was a sufficient example, although that was to a certain extent due to a greater mileage performed in the present than in last year. They had arrived at a satisfactory dividend of 15 per cent. on their deferred stock, and their great ambition was to be able to maintain that respectable dividend in the future. (Hear, hear.) In order to do so, however, they must pursue a conservative policy in finance, and the contingent fund which they had opened this year was the first evidence of their desire to do so.

He had referred more than once to the growth of expenditure. The settlement effected with the captains and officers would cost in the future at least £20,000 annually. There was certainly a drooping tendency in the freight market, and they had to face the question of a future mail contract, which might require a new adjustment of their business on fresh conditions altogether. Then there was obviously the fact to be faced that with increased value in their fleet they had increased normal depreciation, and as underwriters a heavier risk to guard against. They therefore regarded this contingent fund as a valuable measure, and a fair guarantee that the dividend which they had now attained would be perpetuated, he hoped, for many years. (Applause.)

Sir WILLIAM ADAMSON seconded the resolution, and it was carried unanimously.

The retiring directors, Lord Balfour of Burleigh and Sir William Adamson, were re-elected, and, on the motion of Professor E. Hull, a hearty vote of thanks was accorded to the chairman, the directors and the staff.

#### CUBAN RAILWAY FUSION.

On 11th the directors of the United Railways of the Havana and Regla Warehouses, Limited, and of the Cuban Central Railways, Limited, for the purpose of considering the proposed fusion, submitted by acquisition by the former company of the control of the Cuban Central Railways.

The meeting of this company was held in Winchester House, Old Broad Street, E.C., Mr. C. J. Cater Scott presiding.

The chairman of the board of directors of the United Railways considered that the acquisition of the Cuban Central undertaking would be advantageous to both companies. By obtaining the Cuban Central, and it was that offer which was now before the board, the United Railways would be enabled to increase its capital.

£10 share of the Cuban Central Railways there was offered £7 10s. of the United Railways ordinary stock. When the offer was made the price of the Cuban Central £10 share was about 53, and the market price of the United Railways ordinary stock was 82. That made the market value of the £7 10s. of

a shareholder of the Cuban Central who elected to make the

offer on the ordinary stock. That would give the Cuban shareholders on the £7 10s. which they received 37 per cent. There would be a balance of £1,000,000, which they would receive in cash and to income, and he thought that the offer was a liberal one. In order to increase the ordinary stock of the United Railways by £1,000,000, though the maximum required would be £1,750,000. It was not contemplated to issue the balance except to a very limited extent. It was not likely that all the Cuban Central shareholders would accept the offer, but a very large proportion would. From the Cuban Central Railways £200,000 of their 55 per cent. preference shares at par, the money being required for works in hand, and to carry out existing obligations. It was proposed that for every £10 Cuban Central preference share there should be given £10 of the United Railways preference stock. The Cuban preference shares were 55 per cent. and the United Railways preference stock was 5 per cent. The loss of income which that involved would be met by issuing, in addition to the £10 United Railways preference stock, a certain amount of United Railways ordinary stock. If the deal went through, the United Railways directors proposed that the Cuban Central Railways should remain a distinct company, with its own board of directors and its own general manager. The debentures of the Cuban Central would remain a first charge, and the preference shares of the Cuban Central would remain a second charge, without any guarantee, on the part of the United Railways. The two systems of railway were closely connected physically, and still more because there was an arrangement for an exchange of traffic. It had worked most satisfactorily, and it was capable of being very largely increased. When they had the proposed powerful combination they would be able to give vastly increased facilities for railway travelling, and at the same time to make considerable economies. He moved a resolution approving of the proposed scheme.

Sir H. M. JACKSON seconded the motion, and it was unanimously adopted.

The meeting of this company was held in Salisbury House, London Wall, E.C., Sir W. L. Young in the chair.

The CHAIRMAN said that the meeting was called to convey to the shareholders the board's view on the offer made by the directors of the United Railways of the Havana to purchase the whole of the ordinary stock of the Cuban Central Railways by an exchange of stock. Having explained the proposals made by the United Railways board, he said that no formal resolution could be passed at this meeting which would be effectually binding on the ordinary shareholders, as the acceptance or rejection of the offer to sell was a matter for the discretion of each individual shareholder. In reply to the directors' circular

desire to accept the proposal. Some such arrangement sooner or later was likely to be suggested. It appeared to the directors that the offer was a fair one, and a good business transaction for both parties, and the directors therefore recommended it to the shareholders' consideration. The through traffic between the systems of the two companies was increasing every day, and a closer alliance would be of great benefit to both companies. Having touched on various details as to traffic and finance, he proceeded to say that the board of the United Company wished to have their own nominees on the board of this company, the directors of which would consequently resign. The United Company, therefore, proposed to pay the board the same compensation to such officers and members of the staff whose services they might dispense with.

After a question, that the holders of 60 per cent. of the ordinary shares

Manx Electric Railways. The gross receipts for the year

£20 750, which it is proposed to allocate as follows: To balance of preference share dividend due in respect of the year ended September 30, 1913, £2,000; and to dividend of 2 per cent. on the ordinary shares, £2,000; leaving £2,170 to be carried forward.



It is to be noted that the detailed accounts comprising the monthly and quarterly statements submitted for the nine months ended September 30 last, and also the detailed accounts of the working of the railways in India for the three months January to March, 1913. For the half-year ending September 30 last the detailed accounts prepared in India are not completed until the end of November in order to meet Government requirements, and they cannot, therefore, be received in time for inclusion in this report, and will be presented in the next report, scheduled for June 1914.

There has been no change since the last report as regards the amount of stock raised by the company, which for 1911 is £2,000,000, of which £1,000,000 is £100,000 of 3½ per cent. debenture stock. These amounts having been raised and expended prior to January 1, 1912, are merged in the agreed-on capitalisation of the undertaking as at December 31, 1911, viz., Secretary of State's capital, £28,000,000 preferred and £10,500,000 deferred, and company's capital, £2,000,000 preferred, together with £1,000,000 debenture stock.

2. With regard to capital expenditure since December 31, 1911, the total incurred up to March 31, 1913, including suspense accounts but excluding payments on account of liabilities incurred prior to January 1, 1912, has amounted to Rs.1,10,13,236. The funds to meet his outlay have been advanced by the Government to the extent of Rs.1,08,3,236, and by the company to the extent of Rs.2,60,000, and these amounts constitute temporary additions to the preferred capital of the Secretary of State and of the company respectively. The capital expenditure charged off during the quarter ended March 31, 1913, was Rs.31,35,490 for the broad-gauge and Rs.5,03,421 for the metre-gauge, of which Rs.1,04,10,000 and Rs.1,00,000 respectively are on account of rolling-stock.

The results of working for the quarter ended March 31 on the combined system, compared with the corresponding period of 1912 were as follows :—Gross earnings, Rs.1,60,85,963 against Rs.1,77,72,344; net earnings, Rs.1,01,11,300 against Rs.1,05,23,980. The percentage of expenditure to gross earnings was 45.71 against 40.81. Coaching traffic shows an increase of Rs.58,069 on the broad-gauge, and of Rs.1,60,877 on the metre gauge; goods traffic, a decrease of Rs.4,16,110 on the former, and of Rs. 6,37,830 on the latter; sundries, an increase of Rs.30,977 on the broad gauge, and of Rs.2,025 on the metre-gauge; and telegraph, a decrease of Rs.875 on the former and of Rs.1,206 on the latter.

1913, can be made; but information from India justifies the directors in recommending the payment in January next of an interim dividend of 10 s. per cent. in addition to the guaranteed interest then due. Since the decision of the directors to recommend an interim dividend the accounts for the first half of the year have been closed, and the main results, cabled from India, are as follow: Gross earnings, Rs. 3,07,66,000; working expenses, Rs. 1,65,75,000; net earnings, Rs. 1,41,91,000. The net earnings are somewhat higher than was anticipated from the working estimates.

The report for the quarter ended March 31, 1913, states that the capital expenditure on the company's and state lines during the quarter was Rs.30,44,778, viz. :—On construction account, Rs.6,18,167; on suspense accounts, Rs.24,26,611 total, Rs.30,44,778. The outlay on construction account was Rs.6,18,167, of which Rs.4,01,679 was incurred on the broad gauge lines, viz., Rs.3,76,517 on works and Rs.25,162 on rolling stock; and Rs.2,16,488 on the metre gauge lines, viz., Rs.80,205 on works and Rs.1,36,283 on rolling stock. The expenditure was met from advances by the Secretary of State, raising the aggregate of advances by Government to March 31, 1913, to £1,128,258. The gross earnings amounted to Rs.90,56,648, being an increase of Rs.7,63,140, more than 8½ per cent. over the figures for the corresponding period of 1912. Of this result, an increase of Rs.5,59,335 was on the broad gauge section, and Rs.2,03,805 on the metre gauge section. The increase on the broad gauge section included Rs.3,18,527 under coaching traffic, Rs.1,40,588 under goods traffic, and Rs.50,220 under miscellaneous (including telegraph). The improvement on the metre gauge section was made up of an increase of Rs.1,97,115 under coaching traffic, and small increases of Rs.395 under goods traffic and Rs.6,295 under miscellaneous (including telegraph).

The following table compares the working expenses of the broad and metre gauge sections respectively, with the actuals of the corresponding period of 1912 :—

Mileage	1914-15 (Actual)		1915-16 (Actual)		Total Inc. +/- Dec. 1915-16
	Rs.	Paisa	Rs.	Paisa	
Locomotive expenses	10,48,208		10,48,208		
General charges	2,74,472		2,74,472		
Hire of rolling stock	6,04,8		6,04,8		
Other charges	2,30,000		2,30,000		
Total	19,57,488		19,57,488		

The increase under maintenance of way, works and stations was due principally to more extensive renewals of cast iron pot sleepers on the broad gauge section and of rails on the metre gauge section, and increased expenditure on realignments of the metre gauge section, counterbalanced to a considerable extent by reduced expenditure on strengthening bridges, and by special credits due to re-allocation and to re-valuation of stores. Under locomotive expenses the increase is mainly under fuel, due to the larger mileage run and higher price of Bengal coal, counterbalanced by reduced expenditure on maintenance and renewal of engines. Under carriage and wagon expenses there was reduced expenditure on repairs and renewals of broad gauge vehicles, coupled with heavier outlay on metre gauge stock, resulting in a small net decrease. The higher expenditure under traffic expenses is due partly to a revision of the scale of the superior staff, but to a larger extent to the improvement of the position of Indian assistant station masters and to a necessary increase in the numbers of subordinate station staff. Under general charges, there were a number of minor variations, none of special importance, resulting in a small increase in the aggregate. The comparatively large increase under special and miscellaneous expenditure was due to the grant of special retiring gratuities, and to the increase in the cost of the renewal of certificates, on which







## PERSONAL.

Mr. C. L. Conacher

Mr. C. W. Barton.

Mr. J. Larder.

Mr. G. L. Liddle, *General Manager, London and North Western Railway*, has been appointed *General Manager of the Egyptian Delta Railway Company*.

Mr. Frank Foster, *Secretary, London and North Western Railway*, has been appointed *Secretary of the Buenos Ayres Western Railway*. Mr. Foster is a member of the family.

Mr. J. I. Oliver, *General Manager, London and North Western Railway*, will retire at the end of the year. He has been engaged in the construction of the railway and other undertakings, as well as assisting in public and charitable work in Newcastle.

Mr. H. S. C. Ree, the chief engineer of the Cardiff Railway (Bute Docks), has decided, owing to the state of his health, to retire. Mr. Ree has been in charge of the construction of the Queen Alexandra Dock, Cardiff.

Mr. H. R. Barnett, *General Manager, London and North Western Railway*, has been appointed *General Manager of the South Staffordshire Railway*, after 40 years' service with the company, observed, in the fact that his typewriter was the first to be used on the London and North Western system.

Mr. J. Percy Clarke, *General Manager, London and North Western Railway*, intends to leave on January 2 for Pernambuco on business. Afterwards, he will proceed to England. Mr. Clarke is joining the board of directors of the Great Southern Railway. Mr. R. de Candolle, the newly-appointed general manager of the Great Southern Railway, is due to arrive at Buenos Aires on January 1, is due to arrive at Buenos Aires on January 1.

Mr. Tom Smith, show-man, horse and cattle traffic canvasser to the Great Central Railway, on retiring after 32 years' service, has been presented at Nottingham with a purse and a cheque for £37 10s. from the show proprietors of England. Mr. W. Clow, chief superintendent of the line, in better servant. "Old Tom," as he is known, has been a devoted

Sir Guy Granet, who has visited America to study the electrification question and terminal improvements, is reported to have informed interviewers that he does not think that either political party wants actual Government ownership of the Government control. On the subject of the increase in freight rates, he expressed the opinion that they will not anything like cover the cost of increased wages that have been given, and the trouble is that further increases of wages will be

## LANCASHIRE AND YORKSHIRE RAILWAY DINNERS.

The party left Manchester for the "Brighton of the North" in the early afternoon. The staff of the chief goods manager were also holding their annual dinner at Blackpool, and advantage was taken of this to arrange a football match between teams selected from the respective departments, resulting in a victory for the chief goods manager's staff. Those who did not attend the football match found other attractions in the Tower, Winter

Gardens, etc. Mr. Arthur Watson (superintendent of the line), presided at the dinner, supported by Messrs. R. C. Irwin (secretary), J. A. Redford (chief cashier), J. Taylor-Jones (assistant

chief clerk) and F. H. Cowell (eastern district passenger superintendent). There was a happy run, my numbering over one hundred. Complimentary telegrams were exchanged with the staff of other departments who were also holding their annual dinner. The local toast having been honoured, Mr. Walter H. Smith ably proposed "The Lancashire and Yorkshire Railway and its officers." Mr. Watson, who was received with musical honours, responded, and expressed thanks for the very cordial manner in which the toast had been received, and took the opportunity of thanking the staff for the splendid service they had given him during the year. Mr. Hauxwell

## RAILWAY NOTES.

## The Toran Steel Company

**New Contracting Company.** Mr. J. Norton Griffiths, M.P., is one of the directors of the newly-registered company of Norton Griffiths, Limited, formed to construct, manage, work and control public works and conveniences of all kinds, including railways, tramways, docks, harbours, piers, canals, etc., in any part of the world. Mr. W. W. Mitchell, 594, London Wall, E.C.C., is the secretary.

**An Expensive Mishap on the Consett Railway.** Twenty-eight loaded coal wagons ran a mile down an incline on the Consett Iron Company's railway at High Thornby, near Newcastle, on December 9, and left the rails. Almost every truck was damaged and its contents were scattered. Damaged amounting to over £2,000 was done. Another set of wagons on an adjoining line have been left with the brakes off, and had started to run, when the leading wagon jumped the line.

**Canadian Pacific Railway Insurance.** According to advices from Montreal received in New York, the largest insurance deal in undertaken the insurance of the Canadian Pacific Railway Company's property. The property is valued at 115 million dollars (£23,958,333), and the amount of the insurance is stated to be over a hundred million dollars (£20,833,333). Sir Thomas O'Shaughnessy declined to give the name of the firm through which the insurance has been effected.

**North British Developments at Rosyth Naval Base.** The North British Railway, which lies between the main Edinburgh and Perth line and a loop linking the Dunfermline line with that to Kirkcaldy. It is believed that the company intend to construct a new goods station and marshalling sidings for the growing traffic at Inverkeithing. It is also the company's intention to double the North Queensferry line, and to link it up to the main line in order that it may be better adapted for

**Canadian Pacific's New Trust Fund.** Sir Thomas O'Shaughnessy, the president of the Canadian Pacific Railway Company, interviewed on December 10, in connection with the new Trust Fund, explained that the fund is not concerned with the unsold lands or other extraneous assets of the company. The Trust Fund has been created to be devoted to the payment of interest on the note certificates and their redemption at par at or before maturity. It is composed of the deferred payments and the securities in which the proceeds of land sales heretofore made were invested. It did not include any of the unsold lands or other extraneous assets of the company. These remained intact for the future benefit of the share holders, and the directors were satisfied that the special income from these sources would be sufficient. The dates of payment would

be due and payable.

## Opening of the Buenos Ayres Tramway Subway

The first line of its kind in South America, was inaugurated on December 2 by the President of the Republic. The trains run at intervals of 15 minutes, and the service is very rapid. The stock is luxurious, the stations are well lighted, and there is a large amount of daylight. The terminus is under the Buenos Ayres Western Railway station, and at this point the cars run

**South Eastern and Chatham Winter Continental Service.** Full details of the services to be commenced are arranged for the winter season, and the following addresses have been issued by the South Eastern and Chatham Railway: The Railway Travelling Club, 10, Abchurch Lane, London, E.C. 4, will arrange with the London and North Western Railway for the through service from Victoria, and a sleeping car from Calais to Paris (Lyon) via the Channel Tunnel. "Aunt Rachel" Passengers, 10, Abchurch Lane, London, E.C. 4, will arrange with the London and North Western Railway for the special advantages, and a special excursion service for Cannes, Nice, etc., is announced to leave Charing Cross for the Christmas holidays. Improvements in the service to the Continent will include, daily, the express service to the Continent of express trains to Charing Cross via Dover and Calais. From December 1 it will be due in Paris at 11.0 p.m., or in 6½ hours from London. From December 6, it will have a connection to Bâle via Laon, and from December 15 a connection to Interlaken via Délemont. Sleeping cars from Calais to Bâle and Calais to Interlaken will run, and passengers for the winter sports will find this improved service of the Ligne du Nord de France. Channel Migrants will be provided in 3 coaches from London and the Channel ports. Through

## OBITUARY.

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## PECKETTS' LOCOMOTIVES

PECKETT & SONS,  
ATLAS LOCOMOTIVE WORKS, BRISTOL.

# MIDLAND

RAILWAY CARRIAGE &amp; WAGON CO., LTD.,

Builders of

RAILWAY CARRIAGES,  
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## TRAVELLING ARRANGEMENTS FOR CHRISTMAS.

**GREAT CENTRAL.** The exodus from London on Christmas Eve is usually so great that crowded trains are invariably the result. In order to avoid overcrowding, and to obviate the necessity of rushing to the station a considerable time before the train's departure to secure a suitable seat, the Great Central Railway announce that passengers who book early in advance by the express excursions will have a seat reserved for them, without extra charge, on the trains leaving Marylebone on December 24. Special expresses will depart for numerous towns and holiday resorts in the Midlands and the North. Tickets available to return the following Friday, Saturday, or Wednesday are issued at extremely low fares. Luncheon or restaurant cars will be attached to the principal trains, the compartments being electrically lighted and maintained at a genial temperature.

**GREAT WEST.** An extensive programme of excursions has been arranged from Paddington to all parts of the line. Bookings will be given for various periods covering the holiday season, as follows:—December 23,—North, South and Central Ireland and the West of England. December 23 and 24, to the West of England and South Wales. December 24, to the Midland, the North, South and North Wales and the West of England. Christmas Day.—Swindon, Bath, Bristol, Chippenham, Weston-super-Mare, Gloucester, Stroud, Cheltenham, Oxford, Newbury, Hungerford, Saverneack, Devizes, etc. December 26—Newport, Cardiff, Swansea, Birmingham, Leamington Spa, Warwick, Wolverhampton, Reading, etc. A special restaurant car excursion will leave Clapham Junction at 6 p.m., and other London stations for Exeter, Dawlish, Teignmouth, Newton Abbot, Torquay, Paignton, Dartmouth, Plymouth, Looe, Bodmin, Wadebridge, Fowey, Newquay, Truro, Falmouth, Helston (for Lizard), St. Ives, Penzance, etc. On Christmas Day the ordinary Sunday service will be in operation, with various exceptions. Full particulars of Christmas facilities obtainable at the stations and offices.

LANCASHIRE AND YORKSHIRE RAILWAY. --Thanks to the enterprise of the Lancashire and Yorkshire Railway Company, residents in those counties are offered at Christmas and the New Year special trips over practically the whole of the railways of England, Scotland, and Wales. The holiday literature issued from Victoria Station, Manchester, by Mr. A. Watson, superintendent of the line, reveals cheap tickets to London, the North Coast, the Mecca of the East, the Mediterranean, the Channel Islands, the South and Central Wales, and to Scotland, as well as to all the stations on the company's system. The fares are very tempting and the tickets are available from three to fifteen days.

and available from 12.15 to 1.15 p.m. on the day of the special supper-express at excursion and ordinary fares, will run from London to Devon and North Cornwall on December 24. The trains will be formed of corridor carriages, and hot suppers (2s.) will be served. Fast excursion trains will also leave Waterloo about midnight for principal stations in the West, and earlier for Hants, Wilts, Somerset, Dorset, etc., the tickets being available for return on various dates up to January 3. Cheap tickets are announced to the Isle of Wight by certain trains, including the 6.40 p.m. corridor dining-car express from Waterloo. Most of the long-distance expresses are corridor trains with restaurant cars, and in addition the compartments are warmed. On the low days preceding the holiday certain ordinary trains will be run in two divisions, and on Christmas morning special trains will leave Waterloo at 6.10 a.m. for the West. To the Continent 15-day excursion tickets will be issued from Waterloo, etc., *via* Southampton, to Paris, Rouen and Havre, on December 22 to 24; to St. Malo for Brittany on December 23, and to Guernsey and Jersey on December 24. Holiday programmes, etc., can be obtained at the stations and offices, or from Mr. Henry Holmes, superintendent of the line, Waterloo Station.

**SOUTH-EASTERN and CHATHAM.**—Cheap tickets will be issued from London to the French Riviera, *via* Dover and Calais, leaving Charing Cross at 4 p.m. on December 23. Excursions will be run from London to Paris, *via* Dover-Calais and Folkestone-Boulogne, on December 21, 22, 23 and 24; also from London to Brussel-Boulogne, Calais, Ostend and Le Touquet, *via* Dover-Calais, Folkestone-Boulogne and Dover-Ostend on December 21 to 26 inclusive. For the winter sports in Switzerland the quickest service (1 and 2 Class) is the 4.30 p.m. from Charing Cross every week-day except Christmas Day. Sleeping cars from Calais to Bale and Calais to Interlaken have been provided. Excursions to Corsica have also been arranged by the Dover-Calais and Folkestone-Boulogne routes. On December 24 special express trains will leave one or other of the London stations, Charing Cross, Victoria, Waterloo, St. Paul's, Holborn, or Cannon Street for the Kent coast towns and the chief continental ports, and the Folkestone, Dover and Margate local tickets at the week-end fares will be issued for the trains for stations to which week-end bookings are in force. On Christmas Day the ordinary Sunday service will run with certain extra trains. On December 26 excursions will be run from the principal stations to London, returning about midnight. Frequent trains will be run from Victoria, Holborn and Ludgate Hill to the Crystal Palace (High Level Station) and *vice versa*. Full particulars as to times of trains, alterations in services, etc., will be found in the holiday programme and special train service supplement.

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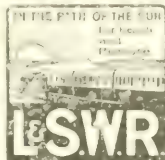
\* Including North West Territories; † Includes Alaska; ‡ Includes Hawaii.



# XMAS HOLIDAYS

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10.15

### SUPPER-CAR EXPRESSES ON XMAS EVE at Excursion Fares from London (Waterloo at

10.15) to Bournemouth, Bournemouth to London, and London to Bournemouth. Tickets also available by these trains.

### EXCURSIONS ABOUT MIDNIGHT TO WEST OF ENGLAND AND EARLIER TO DORSET, WILTS. SOMERSET. HANTS. ETC.

### CHRISTMAS ON THE CONTINENT.

On December 22nd, 23rd and 24th to PARIS (for details see Railway Times) and 23rd to ST. MALO (for Brittany) 25/6. On December 24th to GUERNSEY and JERSEY 23/6.

Programmes giving full particulars obtainable at the Company's Stations and Offices, or from Mr. H. A. Walker, General Manager, at the Lanes Waterloo Station, S.W.

H. A. WALKER, General Manager.

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SAM FAY, General Manager.

# **L. & N. W. R.**

## Christmas & New Year Excursions FROM **EUSTON**

AND OTHER LONDON STATIONS TO -

**Tuesday, 23rd December.**

	Fares from	s.	d.
Ireland .. .. .	25	0	
South Wales .. .. .	17	0	

**Tuesday Night and Wednesday, 23rd and 24th December.**

Blackpool, Morecambe, English Lake District, Furness Line Stations ..	18	0
Huddersfield and Leeds Districts ..	17	0

**Tuesday Night, 23rd December, Wednesday and Wednesday Night, 24th December.**

Liverpool and Manchester Districts	17	0
Rugby .. .. .	9	6

**Wednesday, 24th December.**

		s.	d.
North, South, and Central Wales, and Cambrian Line Stations .. ..	17	0	
L. & Y. Stations .. .. .	17	0	
Northampton District .. .. .	7	6	
North Staffordshire District .. ..	14	0	
Chester and Birkenhead District ..	17	0	
Birmingham & Wolverhampton District	12	0	

**Wednesdays, 24th and 31st December.**

Carlisle and Scotland .. .. .	25	9
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**Friday, 26th December.**

Birmingham & Wolverhampton District	7	6
Northampton .. .. .	5	3
Rugby .. .. .	4	3

On Tuesday, 23rd December, a Special Dining Car Express will leave EUSTON at 4.50 p.m. for Liverpool (due 9.0 p.m.) and Fleetwood (due 10.25 p.m.) at ordinary fares.

On Xmas Day, 25th December, a Special Train at ordinary fares will leave EUSTON at 6.0 a.m. for Northampton, Rugby, Birmingham, Shrewsbury, Chester, Manchester, Liverpool, Holyhead, Carlisle, &c.

For complete arrangements of fares, excursion rates, and timetables, apply to any of the Company's Stations or Town Offices, or write to the Enquiry Office, Euston Station, London, N.W.

(Continued on p. 593.)

FRANK REE, General Manager.

### DAVIS BURROW & SONS



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# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, DECEMBER 20, 1913.

No. 25.

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## THE RAILWAY TIMES.

Established in 1837.

PUBLISHED EVERY SATURDAY

Annual Subscription (post free), 25 shillings.

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New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

Money Orders, Cheques, etc., should be drawn in favour of THE RAILWAY TIMES, and should be crossed "National Bank." Telegraphic Address: "Attimetry, London." Telephone: No. 2048 tierrard. Offices: 12, Norfolk Street, London, W.C.

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## THE RAILWAY YEAR.

The forthcoming dividend declaration and annual statement of the United Kingdom will be of much interest because they will represent the first of the new financial accounts ever published by railways of this country, and they will also comprise the first set of final dividends. The position of affairs, owing to the large recovery in gross receipts by comparison with the coal strike period on the one hand, and the large addition to expenditure due to higher cost of materials, increase of wages, etc., on the other hand, would, in any case be very uncertain. The vagueness of the situation has been enhanced by the merely partial disclosure of results for the period ended June 30 last, and the entire absence in individual cases of any information beyond the bare interim dividend payments. That the dividends were of an interim character in all cases it is perhaps necessary to emphasise, as that feature in itself constitutes a novel situation. It really comes to this, that the actual dividends being distributed on Home Railway ordinary and deferred stocks, instead of being ascertainable every six months, will really only be disclosed after the close of each financial year ended December 31. The importance of the announcements made for the June period is thus reduced, but the importance of the final distributions declared after the close of the year will be correspondingly enhanced. The abandonment of the half-yearly meetings after the close of the June half-year has contributed not a little to still further increase the uncertainty of the situation, and, for the same reason, the new annual meetings which are rapidly approaching will gain in interest from the shareholders' point of view. Whilst we fully appreciate the

the annual accounts we must again emphasise what we have previously stated on more than one occasion, that the absence of more complete information for the first half of the year, and the abolition of the half-yearly meetings, were possibly prepared to admit when the

companies have shown a real desire to fill in the gap by publishing more details after the close of the June half-year than they were obliged to do, but other companies, and those some of the most important, have thrown no light on the course of profits since January 1 last. In considering the outlook for dividends for the year 1913, we do not think that there will be any striking changes other than those associated with the recovery in the dividends directly due to the coal strike period of 1912. In other words, on the average, it may be anticipated that dividends will be very little, if any, better than those of

a cautious attitude, having regard to the labour outlook.

the consideration for the future may be expected to restrain the directors until at least a more settled state of

not think there will be much to complain of in the aggregate net profits, and there are some very powerful arguments

What-

... of the fact that State purchase, or State financial control of a more or less indirect character, has been brought very much nearer within the last three years. ... the existing rights of the railway companies it is also clear that the profits now being disclosed and distributed may at some future time fix the price to be paid for the property of the shareholders, or in other ways affect their financial position in any subsequent arrangements with the Government. We are not at all sure that railway directors and railway shareholders and others do not depreciate their own property seriously in the eyes of the public and the Government without justification. It would be extremely foolish to adopt a dividend policy which showed to all concerned that the ... some lack of confidence in the ...

### GRAND TRUNK PACIFIC CAPITAL.

... for the Grand Trunk Pacific Railway Company that their fresh capital requirements have to be met at a time when there is so much depression in the price of securities and when the rush of new issues is so great that the market cannot or will not take them up in anything like full. The demand for new capital for the time at least really exceeds the supply. Hence companies and even Governments and public authorities desiring additional money have to offer more and more favourable terms to the investor. One of the latest examples may be found in the prospectus, issued on the same day as that of the Grand Trunk Pacific Railway, of the Port of London Authority offering £1,000,000 of 4 per cent. inscribed stock at the price of £92 per cent. This stock will be redeemable at par from 1920 till 1925, so that the whole revenues of the Port of London are at the disposal of the stockholders by this Authority. The price is hardly to be wondered at. It is not surprising that the Grand Trunk Pacific Company should have to offer still better terms in asking subscriptions for £2,000,000 of secured notes. The rate of interest is 5 per cent., the price of issue is 100, and the period of redemption is only seven years, while redemption may take place by drawings on any interest date at the price of 101. Principal and interest are secured by the Grand Trunk Pacific Company of Canada, and the notes are further secured by the deposit of the 2 per cent. debenture stock, the present price of which is

... The main line of the Grand Trunk Pacific extends from Montreal to Winnipeg, a distance of 1,231 miles, and west of Winnipeg for 1,231 miles. Only about ... During that period, however, the security offered appears ample, and owing to the shortness of the term there is little chance of investors suffering from market depreciation should they have to realise. For ... it is only in times like the present that necessity could arise for issuing notes for such a short term. No ... they may be renewed on more favourable terms, and if desired for a longer period.

### THE ABSENCE OF DISCIPLINE.

It is well, perhaps, to investigate special reasons for any particular instance of insubordination raising its hydra-head and of the consequent almost impossible state of affairs. The *bons et origo* of most of the trouble is no doubt the spread and dissemination of the so-called education that has been going on for many years past. Had the knowledge thus imparted been associated with a due respect for the existing relations between men in different stations of life, it would have been wholly beneficial. This has by no means been the case; youngsters have had their brains stuffed with crude facts (most of which, by the way, they forget as soon as they leave school), but the principles of even ordinary intercourse have been all but ignored entirely. Such commonplaces as the duty towards those in authority, the honouring of their father and their mother and of others, indeed duty towards mankind, in general have not been recognised as deserving of marks or as forming part of the curriculum of the standard examinations. The only duty that is now considered worthy of commendation is that of

... not for the sole purpose of improving their own condition, but in order to impoverish as far as possible during the process those who provide them with bread and butter. It is considered necessary, in order to carry out this policy, to ignore all authority, whether private or public. The respect for parents not having been inculcated at school, it was left to their parents to do what they could in this line during the totally inadequate time left at their disposal; indeed, the second generation having in their turn produced a younger one are reaping the fruits of their own misdirected teaching, and do not know what to do with their own children, who are quite beyond bounds and for whom they are glad to be relieved of any responsibility what ever. Sentiment is pool-poohed and everything is measured by a strictly utilitarian rule; the caste system is being gradually destroyed in India, religion of any kind is being tabooed in many countries and teaching of even its universal principles is not allowed. What is being introduced in their place? "Licence masquerading as 'liberty,' intense selfishness as 'fraternity,' and the splitting into opposite camps as 'equality.' What is the remedy? There is none ready to hand, for it is purely empirical, the protagonists of un-rule will learn in time by bitter experience the suicidal folly of their present reading of the French Revolution's watchwords. Meanwhile sober-minded people should endeavour to combat the growing evil as far as possible by treating all men with consideration, whether they are superiors, equals, or inferiors and dependents, while giving them a chance of reciprocating the treatment. It is well to remember that in many respects all men are equal, and that it is only by their behaviour towards each other that individuals rise and stand out above the crowd. Respect should be enforced both from inferiors and from superiors, without arrogance in the one case or subservience in the other. It stands to reason that under no circumstances should self-respect be lost—it these rules of conduct be strictly maintained it will be easy to command it in all cases. No man with any self-respect will demand other than fair treatment nor, on the other hand, will any such man yield to clamour what he knows to be unreasonable. Insubordination, if unchecked in time or not nipped in the bud, becomes a mighty and overwhelming flood, destroying the work of ages; or a upas tree, killing everything that comes under its baleful influences. Matters are trending that way in many quarters, and any stand against this destroying influence can but check it for a time, unless action be taken by all, from the highest to the lowest, both in ordinary business and especially in public services, such as railways and all undertakings connected with them.



# MONEY AND STOCK MARKETS.

STANDARD DAYS.

(1000 LONDON)

		Ticket Days.		
Mines, Dec. 27	General, Dec. 27	Mines, Dec. 27	General, Dec. 27	
Mines, Dec. 27	General, Dec. 27	Mines, Dec. 27	General, Dec. 27	
Mines, Dec. 27	General, Dec. 27	Mines, Dec. 27	General, Dec. 27	
Mines, Dec. 27	General, Dec. 27	Mines, Dec. 27	General, Dec. 27	

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

	At Present.	Last week.	Same Week Last Year.
Bank's Coin and Bullion	£22,109,952		
Total Reserve			
Proportion of Reserve			42.08 p.c.
Notes in Circulation			5 p.c.
Open Market Discount			
Bankers' Clearing House			
Silver bars, per oz. (spot)			
Consols (account)			
French 3 per cent. (acc.)		85l. 50c.	86l. 50c.
Paris Cheque exchange			25l. 21c.
New York 90 days ditto		\$4.81	\$4.80
Rio de Janeiro exchange			
Valparaiso 90-day exch'ge			
Calcutta transfers			
Hong Kong transfers	1s. 11d.	1s. 11d.	
Shanghai transfers	2s. 7½d.	2s. 7½d.	

	per cent. Jan. 19	per cent. Feb. 15, 1911
1000 LONDON	1910 3	1910 3
1000 LONDON	1910 4	1910 4
1000 LONDON	1910 5	1910 5
1000 LONDON	1910 6	1910 6
1000 LONDON	1910 7	1910 7

Examination of the Bank Return this week shows that about £1,400,000 in coin has already been withdrawn for use in the country, a preparation, no doubt, for Christmas trading. The note circulation has expanded by £216,000, but sums amounting to £661,000 have been received in gold from abroad, chiefly in bars, against which only £260,000 was exported. The Reserve is thus £1,215,000 lower at £25,075,000, an amount which is nevertheless nearly three millions more than obtained at the corresponding date in 1912. The market resources are, however, less than they were this time last year by nearly the same amount, other Deposits being £2,050,000 down at £37,460,000, a figure which is too low to be maintained. It is not surprising, therefore, to find discounts have hardened during the week, though the three months' bills eased a little on Thursday because the Bank discounted a number of January bills at 5 per cent. Other Securities declined by £406,000, owing to the maturing of market bills held by the Bank. Public Deposits are only £138,000 up, and Government Securities remain practically unchanged. As the result of all changes the ratio of Reserve to the liabilities of the Bank is three-quarters of one per cent. lower at 55 per cent. This is a very high ratio, more than two points better than that of twelve months ago. Gold is still coming into the Bank from abroad, and whatever happens to other centres of finance in the strenuous monetary conditions which now hold, the central institution here is strong enough to stand unperturbed. Indeed, the stringency in money being world-wide, it is

to the interest of all that the Bank should retain possession of as much bullion as is requisite, because owing to our economy in the use of gold, a million sterling is of greater efficiency in staying off a general crisis when in the hands of the Bank of England than if it were anywhere else held.

On the Stock Exchange, the market in Home Rails has had a hard struggle against adverse conditions. These conditions had no immediate relation to the merits or demerits of British railways, but all markets are now so intimately bound up with each other and with the general monetary condition that it is wonderful in the circumstances quotations keep up as well as they do. Foreign bonds and International Securities of every kind have been depressed by the difficult position of the French Government in regard to its finance. The policy of creating Treasury bills for a large amount instead of issuing a loan in the normal way was ill-received by bankers in Paris, and is likely to be dropped soon, if it has not already been abandoned. Canadian and South American railway shares fell owing to sales being pressed on an unwilling market. Consols made another low record, and United States securities underwent fluctuations difficult to explain or justify. It is quite clear that the business of the world cannot be profitably conducted on the present scale under the heavy charges now ruling for the use of money, and the longer a decided check is delayed the worse it will be when it comes.

Last Saturday, Americans opened weak, but afterwards recovered. In the rest of the markets nothing much happened, but among Home Rails some attention was given to Great Northern Deferred, upon which it was expected another ¾ per cent. might be paid, thus putting the stock on a 6 per cent. basis at present prices. On Monday, United States railways weakened on the appointment of a receiver for the Missouri, Oklahoma and Gulf Company, and a statement by the Chairman of the Interstate Commerce Commission to the effect that no increase of rates would be allowed until the Government had the railways more under its control. Brazilian and Argentine Railways suffered from realisations, but Home Rails kept fairly steady. The next day like conditions prevailed, and Consols made another low record, a marking for cash at 71½ being effected. This brings the yield to 3½ per cent., which is only above—or rather below that of French Rentes by the amount of our income-tax. On Wednesday, Consols came down to 71½ for a short time on the announcement of several new issues. Brazil Rails fell sharply and International Securities again weakened. Few movements occurred in Home Rails, and they were irregular. The following day further falls ensued. Canadas dropped ¾ to 210½. Japanese and Russian bonds gave way. Turkish Unified declined a point. Chinese 1912 Salt Bonds fell the same amount. There were rumours of failures in Brussels. Home Rails weakened again, but not much. South Western, also Midland Deferred, indeed, rose each ¼.

On Friday the markets were very depressed at the opening, but improved later. Brighton "A," Dover "A," Great Northern Deferred and South Eastern Deferred were the stocks among Home rails that received the most attention and support. Canadas rose towards midday on a buying order emanating from the North of England and from Berlin. Trunks also improved a little. Mexicans and Brazilians, however, were again sold. United States Railways remained irregular, and Consols, with other British Government gilt-edged stocks, continued in a depressed state, in spite of an easier tendency in rates of Discount. The general tone was set by the condition of things in the international market for foreign securities, which gave no indications of strength. In the end American rails showed up best, many small advances being recorded.

The movements of the week are set forth below:—

Name of Stock.	Rise.	Fall.	Name of Stock.	Rise.	Fall.
Atchison Common ..	1	—	Chicago Gt. Western	1	—
Baltimore and Ohio ..	1	—	Chicago & N. W. Ind.	1	—
Canadian Pacific ..	1	—	Chicago & N. W. Ind.	1	—
Central London ..	1	—	Chicago & N. W. Ind.	1	—
East London Con. ..	1	—	Chicago & N. W. Ind.	1	—
Furness ..	1	—	Chicago & N. W. Ind.	1	—
Great Central Pref.	1	—	Chicago & N. W. Ind.	1	—
Gt. Nthn. Pref. Con. Ord.	1	—	Chicago & N. W. Ind.	1	—
Hull and Barnsley ..	1	—	Chicago & N. W. Ind.	1	—
Lancashire & Yorkshire	1	—	Chicago & N. W. Ind.	1	—
London, Br. & S. Coast	1	—	Chicago & N. W. Ind.	1	—
London & N. Western	1	—	Chicago & N. W. Ind.	1	—
London & S. Western	1	—	Chicago & N. W. Ind.	1	—
Metropolitan District	1	—	Chicago & N. W. Ind.	1	—
Midland Det. Ord.	1	—	Chicago & N. W. Ind.	1	—
North British Pref. Ord.	1	—	Chicago & N. W. Ind.	1	—
North Eastern Cons.	1	—	Chicago & N. W. Ind.	1	—
North Staffordshire ..	1	—	Chicago & N. W. Ind.	1	—
Do. Deferred ..	1	—	Chicago & N. W. Ind.	1	—
Underground Electric	1	—	Chicago & N. W. Ind.	1	—
Colonial Railways.			Chicago & N. W. Ind.	1	—
Canadian Pacific ..	1	—	Chicago & N. W. Ind.	1	—
Grand Trunk of Canada	1	—	Chicago & N. W. Ind.	1	—
Do. 4 p.c. Guaranteed	1	—	Chicago & N. W. Ind.	1	—
Do. 1st Preference ..	1	—	Chicago & N. W. Ind.	1	—
Do. 2nd Preference ..	1	—	Chicago & N. W. Ind.	1	—
Do. 3rd Preference ..	1	—	Chicago & N. W. Ind.	1	—

### BANK RETURN.

Assets.		Liabilities.		Assets.		Liabilities.		Assets.		Liabilities.		Assets.		Liabilities.		Assets.		Liabilities.		Assets.		Liabilities.		Assets.		Liabilities.	
Bank of England.		Barings.		Colonial.		Commercial.		Foreign.		General.		Hibernian.		London & Lancashire.		National.		North British.		Royal Bank.		Scottish.		Western.			
3,255,950		3,255,950		11,135,724		11,135,724		37,461,217		37,461,217		11,124,036		11,124,036		1,176,554		1,176,554		—		—		—		—	
Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits		Public Deposits	
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Leaving Havana (Cuba) to

### Weekly Traffic Summary.

The summary of the official traffic returns for the fifty principal railways of the United Kingdom for the week ended December 14 gives a total of £2,200,034, which was earned on 21,934 miles, being at the rate of £100 6s. per mile of line open. For the corresponding week of 1912 the receipts of the same lines amounted to £2,088,087, with 21,857 miles open, or £95 10s. 8d. per mile. Thus there was an increase of £111,947 in the receipts, an increase of 77 in the mileage, and an increase of £4 15s. 4d. in the receipts per mile.

Thirty-six of the returns distinguish between the receipts from passenger and goods traffic, and these show an increase of £30,276 (or £1 5s. 7d. per mile) in the passenger receipts and an increase of £80,286 (or £3 10s. 6d. per mile) in the receipts from goods traffic. The aggregate increase of the thirty-six railways for the fifty weeks in the passenger receipts has been £3,050,986, while the aggregate increase in the goods traffic was £4,130,705. The aggregate receipts of the fifty railways for fifty weeks (October 29 to December 14) amounted to £110,304,894, in comparison with £109,021,727 last year, an increase of £1,372,134, not including receipts from certain canals, etc.

### NEW CONSTRUCTION AND ROLLING STOCK.

The Board of Directors of the London and North Western Railway Company was voted on December 14 by the Chamber for an extensive programme of new construction.

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## MEETINGS AND REPORTS.

## FORTHCOMING MEETINGS.

Dec. 24	12	Forstal Land Timber and Railways	12
Dec. 24	12	Rio Claro Railway and Investment Company	12
Dec. 24	12	Great Indian Peninsula	12
Dec. 24	12	London and Greenwich Railway	12
Dec. 24	12	North and South Western Junction Railway	12

*Reports, Traffic Returns, Prospectuses, and all other items of financial intelligence should be sent as early as possible to the Editor of THE RAILWAY TIMES, 12, Norfolk Street, London, W.C. (Telephone 2948 Gerrard. Telegraphic Address, Altimetry, London.)*

## INTEROCEANIC RAILWAY OF MEXICO (ACAPULCO TO VERA CRUZ) LIMITED

The following is a summary of the report of the directors of the Inter-oceanic Railway of Mexico (Acapulco to Vera Cruz) Limited, as presented to the shareholders at the annual meeting held on December 18th, 1913, at the Hotel Carlton, London.

The Chairman, Mr. N. STEPHENSON, F.R.S., read the letter convening the meeting and the auditors' report.

The CHAIRMAN then said: Gentlemen,—It is usual to take the business report as read, which I have done, and I think this is the first time since the first year of our existence that some of our shareholders have been in Mexico. I could assure you that when I visited Mexico a few years ago every circumstance indicated a good country for the investment of capital. Mexican finances were on a sound basis, there was a large gold reserve, and every possible protection and encouragement was being given to foreign investors. It would not be advisable for me to discuss the political situation, the papers give full accounts. I must, however, warn you not to place too much reliance upon all you read. The country has, as you all know, great natural resources, and time must solve the difficulties of to-day. You will have deduced from what we tell you in the report that our railway has not entirely escaped the depredations which are usual when a nation is under arms, for although the more important uprisings have so far been confined to the north of the Republic, numbers of armed bands, many of these being practically mere brigands, out for

move in some of the districts which our railway serves. Under these circumstances it is quite remarkable that the gross revenue of the financial year under report, notwithstanding the interference with and losses inflicted upon the farmers and the population in general, should have been £81,000, and this, although parts of the line had to be closed down. Expenses were, of course, higher than they would have been under normal conditions. The accounts show that goods traffic

represent agricultural products, and there were large decreases in coal, ores, bricks and construction material, all items of traffic the demand for which would be the first to fall off when industries are suffering from the disorganisation of trade and enterprise consequent upon disturbed conditions. So far, since 1911, we have not had any serious trouble, but the most alarming feature is the present value of the dollar, namely, only 17½d.

disconcerting in itself to occasion much anxiety, shared by your board in view of the serious effect which it has upon our net sterling profits. Last financial year our net dollar profit was £10,000, but this year it was only £7,000, and the previous year was purchased with about \$1,000 less. The average during the year under report was 24.00d., compared with 24.50d. in the preceding year. I mention this in order to

The directors' report, however, contains the consoling information that we have made a fair start this current year, inasmuch as, thanks to an increase in our receipts, the first four months (July to October) have brought in a sterling profit which is only £4,000 less than those months gave last year. I have calculated that even allowing for the heavy loss on Exchange, if receipts equal to those of last year are maintained, we should be able to meet our debenture interest, liabilities and rental charges, but we are asking you to give

present is not our position, since our borrowing powers are

of loss and damage sustained through the revolutionists. This amount brings up the total added to the actual working costs since the commencement of the disturbances to \$726,324 which, at the usual rate of 24.50d. to the dollar, approximates £296,000.

ment, together with any further sums we may have to claim, but I cannot give any indication as to when a settlement is likely to be made—one of our earlier claims, amounting to \$17,823, has already been paid by the Government. I would like to mention here that a few months ago we had the pleasure of a visit from Mr. E. N. Brown, who had expressed the wish to resign his position as president of the National Railway Company of Mexico.

finding how much his services were appreciated by all the large interests with which he is connected, determined to return to Mexico and resume his duties, which fact I can honestly say is of the greatest possible benefit to us. You will all appreciate that taking into consideration the anxieties and hardships of the position as it now is, such decision is evidence of devoted, courage and high character, and is proof that Mr. Brown was ready to sacrifice his own convenience on account of others. We, as directors, and all the shareholders owe him a deep debt of gratitude. I am sure you will agree with my desire that this meeting should record its deep appreciation of Mr. Brown's loyalty, and of that of the staff in Mexico also. It undoubtedly requires courage in no small degree on the part of the drivers, conductors, station-masters and the employees generally, to carry on the railway operations day after day, knowing that at any moment a crowd of brigands of brutal disposition may fall upon them. Mr. Brown was very emphatic in his opinion as to the possibilities of your railway, which he told us has an importance and prospects second to none in Mexico, a railway which, with normal conditions restored, has a very brilliant future. I regret to say, that the sections of line which are closed to traffic have been increased since last June, and at present aggregate some 21 per cent. of the total mileage. The sections which were closed during last year are on the Morelos and Matamoros lines,

north of the main line has been closed since July 26 last.

After debiting the amount of our fixed charges, which include the interest on the various debenture stocks and the rent of leased lines, and after writing off the cost of certain surveys, the balance was £87,800. The board has transferred

advances made to the Vera Cruz Terminal Company, under the arrangement whereby the four railway companies having terminals at the port of Vera Cruz undertook, in consideration

working expenses and debenture interest. The receipts of the Terminal Company have not yet come up to expectations, but

expenses and render that company self-supporting; we are

payment of 4 per cent. on the first preference stock.

As regards capital expenditure, the statement appearing on the year was limited to some £20,000, nearly the whole of

locomotives, which rendered necessary the construction of oil depots and stations at various points, and the provision of tank cars for its transport. The item of £6,351 credited to

quantity of our land to the Vera Cruz Terminal Company.



the other, and a doubt about Vera Cruz, and so on. He would like something more satisfactory and solid on which they could build their hopes.

Mr. H. B. Brown then read the report of the Inter-oceanic line. Having spent a considerable time in Mexico himself on three occasions, he was in a position to speak with authority on the subject. He said that the Inter-oceanic line was in a very satisfactory position, and that the Board of Directors had been very successful in their management. He then read the report of the Mexican Eastern and Southern lines.

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Though this railway would restore its past prosperity and be again a well-to-do entity, but what was going to take place in the meantime nobody knew. In reply to Mr. Bost, he pointed him to the annual reports made with regard to the railway, and the circumstances, and all that it was a matter of time before they would be only too glad to convey the shareholders' expression of thanks to Mr. Brown and his staff. He said that the damages, only one claim had been recognised and paid; other claims were being made up, and whether they would be paid would depend on whether the country settled with the United States. As to the United States, he really did not know what position. Some of the money already set aside had not been spent; it had been taken away from the company to make the repairs on the lines, and, as roughly as they could estimate, they were sufficient to put them in repair again in a time. What had happened since June he could not tell exactly. They had not received any report as regards the mail-boxes and cables. In regard to the damages, he said they would have the lawing powers because the company was not a body which could get £5,000 or £10,000, and had power to get it, but there was no intention on the part of the powers at present. It would be impossible to carry out the repairs with the powers at lawing; in fact, they would have to go to the security they held in the reserve fund. The "B" debenture stock had cumulative but not voting rights.

Mr. C. H. Brown then read the resolution, which was carried unanimously.

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Mr. Houghton seconded the resolution, which was carried unanimously.

On the motion of Mr. C. H. Brown, seconded by Lord Cowdray, the retiring directors (Mr. G. W. Houghton and Mr. J. Barr Robertson) were unanimously re-elected; and on the proposal of Mr. A. R. Miles, seconded by Mr. Morley, Messrs. Messrs. Davies, Roberts, and Cox were re-elected to the position of 50 guineas.

Mr. Morley moved that the thanks of the meeting be given to Mr. Brown and his staff, and to the directors for their valuable services in connection with the railway, and that the resolution be carried unanimously.

The meeting was adjourned to the 10th of January next, and the meeting would be forwarded to Mr. Brown and his staff.

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## ARGENTINE TRANSANDINE RAILWAY.

The Argentine Transandine Railway Company held its annual meeting at the Hotel de Ville, Paris, on the 15th of December, 1913. The Chairman of the Board of Directors, Mr. Arthur R. Houghton, read the notice of the meeting, and the Chairman of the Board of Directors, Mr. Arthur R. Houghton, read the notice of the meeting, and the Chairman of the Board of Directors, Mr. Arthur R. Houghton, read the notice of the meeting.

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## MADRAS AND SOUTHERN MAHRATTA RAILWAY.

Westminster, S.W., Col. Sir William S. S. Bisset, R.E., K.C. the chairman of the company, presiding.

The report and accounts were taken as read.

mission of our half-yearly accounts from the calendar to the Indian official year took effect from April 1, 1913, and that accounts for the quarter ending March 31 preceding had been specially prepared and profits divided under the conditions applicable to the accounts for the year. It is to consider the

have assembled here to-day. The capital expenditure on the Rs.4,50,722 on works, Rs.1,61,445 on rolling stock, and Rs.24,29,611 on suspense accounts. The latter, which represents chiefly payments on account of stores, was unusually heavy, owing mainly to large deliveries of stores under supply from England shortly before the close of the year. The expenditure was met from funds provided by Government, raising the aggregate of advances by the Secretary of State to March 31,

The gross earnings of the company's and State lines for the quarter, compared with the results of the corresponding period

increase of Rs.7,63,140. The coaching earnings are better by Rs.1,00,000, the miscellaneous earnings (including telegraph) by Rs.50,515. The improvement in the earnings from coaching traffic has been Rs.3,18,527 on the broad-gauge section and Rs.1,97,115 on the metro-gauge section, and in both instances is mainly attributable to the steady expansion of the passenger traffic. On the broad-gauge section the number of passengers carried rose from

2,783,313 to 3,013,381. As usual, the increase is in the third-class traffic, although the returns from the higher classes continue satisfactory. The generally improved conditions of the country and favourable prospects have had a satisfactory influence on the numbers travelling on business and pleasure, and I think I may venture to say that the continued advance in our passenger service, which has been recorded for some time, is to some extent an indication of appreciation on the part of the public of the facilities and conveniences provided by the company's system. The earnings from goods traffic increased by Rs.1,60,083, derived almost entirely from general merchandise carried for the public. The improvement was practically confined to the broad-gauge section. The principal commodities contributing to this result were: grain and pulses, large quantities of grain being imported from the north for Southern India; cloths, owing to increased traffic in ground-nuts chiefly for export; and metals due to increased despatches of

failure of crops, and a late season in certain areas, the traffic in a few commodities, principally in the important staple of raw cotton and subsequently in cotton-seed oil. This fall chiefly affected business on the metro-gauge section. The improvement in the imports of grain from the north and the growth of the export trade in ground-nuts are likely to continue,

The position of the B debenture stockholders might not be entirely dependent for its interest on the net earnings of the line in

agreed to the reduction of the interest to the later figure, it was decided that the interest on the B debentures should be paid, so that, in order to render the stock cumulative, it was

The board proposed to pay on account of that year 2 per cent. in respect of the half-year ending on 31st inst., and there was very little doubt indeed from the returns they already had, that the full interest for the year to 30th June next would be

the debenture stock became payable. The shareholders would see from the accounts that they had a loan from the bank, which they should repay, and they proposed to borrow from the bank. It was obviously not a good time to make an issue of debentures, and he hoped they would

eight years certain for its duration expired on the 1st January 1914. Application for that permission was made in accord with the Argentine Great Western and the

the renewed agreement they had the power to terminate that elation, the Chairman formally moved: "That the report of the directors and statement of accounts now submitted be received and adopted."

This was seconded by Mr. VIVIAN H. SMITH, who said that he could not give any official information with regard to a cablegram published last Saturday that the Argentine and the Pacific Company had agreed to a reduction of rates. The general manager of the Pacific Company had no official information on the subject. He further stated that there was a large sum of money passing between this company and the Buenos Ayres and Pacific. With regard to accounts the sum would naturally appear rather large, but it was purely a matter of book-keeping.

The report and accounts were then adopted. The resolutions for payment of the dividend at 3 per cent. on the preferred shares, the resolution of the directors referring, and the auditors having been duly carried, the proceedings

## Reduction in Fares on the District Railway.

important stations on the District Railway. The fare between Westminster and Blackfriars will be reduced from 15d. to 14d., and between Westminster and Farringham from 15d. to 14d. non-stop trains will be run, and additional cars attached to the trains. The flying junction works at Earl's Court, costing £70,000, will be completed by the end of December. This will permit of a faster service on the Putney and Ealing lines, and will also enable two additional trains each way per hour between the M.

mainly to an increase in carrying income, dependent on the larger







Order, 1897, and by the West Hartlepool Light Railway Deviation, etc. Order, 1900, and the above cases.





### NATIONAL RAILWAYS OF MEXICO.

The report refers to the difficulties arising through the unfavourable conditions of Mexico, and to the financial position in which the directors have been compelled to issue short term obligations. The conditions which prevailed throughout the country affected principally the railway lines, and, in addition to damage done to properties, the company's gross earnings suffered from interruptions, while the constant reconstruction work increased the operating expenses. The net earnings for the year showed therefore a decrease of \$1,886,200 (Mexican currency), and the directors were able to authorise the payment of only one dividend of 2 per cent. on the first preferred stock; the surplus of \$98,963 was insufficient to provide for further dividends. The working results for the year, in Mexican currency, were as follow:—Gross earnings \$57,370,282, operating expenses \$30,243,947, leaving net receipts of \$27,126,335. Adding interest and other receipts, there resulted a total of \$23,139,156, from which had to be deducted: \$500,971 for taxes and rentals, \$608,781 for operating deficits of subsidiary companies, \$507,657 for exchange, and \$50,135 for adjustment of value of material; there remained \$21,345,612, of which fixed interest charges absorbed \$20,575,917, and adjustment to market value of bonds \$40,134, leaving \$723,561 to be carried to profit and loss account; \$36,178 was transferred to reserve, 2 per cent. on the first preferred shares absorbed \$1,153,316, and sundry adjustments \$2,157, leaving a net deficit for the year of \$408,030, which, deducted from the net surplus brought in from 1911-12, makes a net surplus of \$98,963. The grand total mileage on June 30 was 37,014, an increase of 46.6 miles. The percentage of operating expenses to earnings during the year was 63.18, compared with 62.55 for the preceding year. The number of freight cars owned declined from 17,596 at the end of 1911-12 to 10,661 on June 30 last, the company having suffered severe losses of equipment owing to the revolutionary troubles. The development of the oil industry in the Tampico and Tuxpan districts continued, and the prospects look as promising as ever. The outlook for the present crops in the places where farmers have been interfered with is quite encouraging.

**Argentine North Eastern Railway.** The annual meeting was held on Tuesday, at St. James' House, Esplanade, Buenos Aires, E.C., Mr. A. A. V. de la Serna, President, presiding. The financial report, presented by Mr. J. B. de la Serna, Secretary, showed that the company had suffered a loss of \$2,200,000, which was due to the fact that the company had been unable to obtain the necessary funds to carry out its programme of expansion. The directors had, however, managed to maintain the company's operations, and had been able to pay a dividend of 10 per cent. on the first preferred shares. The report also stated that the company had been able to secure a loan of \$5,000,000 from the Argentine Government, which would enable it to carry out its programme of expansion. The directors had, therefore, decided to increase the dividend to 15 per cent. on the first preferred shares, and to pay a dividend of 5 per cent. on the second preferred shares. The report was adopted.

**Canadian Pacific Note Issue.** The annual meeting was held on Tuesday, at the Hotel Vancouver, Vancouver, B.C., Mr. J. B. de la Serna, President, presiding. The financial report, presented by Mr. J. B. de la Serna, Secretary, showed that the company had suffered a loss of \$2,200,000, which was due to the fact that the company had been unable to obtain the necessary funds to carry out its programme of expansion. The directors had, however, managed to maintain the company's operations, and had been able to pay a dividend of 10 per cent. on the first preferred shares. The report also stated that the company had been able to secure a loan of \$5,000,000 from the Argentine Government, which would enable it to carry out its programme of expansion. The directors had, therefore, decided to increase the dividend to 15 per cent. on the first preferred shares, and to pay a dividend of 5 per cent. on the second preferred shares. The report was adopted.

**Peruvian Corporation.** The annual meeting was held on Tuesday, at the Hotel Vancouver, Vancouver, B.C., Mr. J. B. de la Serna, President, presiding. The financial report, presented by Mr. J. B. de la Serna, Secretary, showed that the company had suffered a loss of \$2,200,000, which was due to the fact that the company had been unable to obtain the necessary funds to carry out its programme of expansion. The directors had, however, managed to maintain the company's operations, and had been able to pay a dividend of 10 per cent. on the first preferred shares. The report also stated that the company had been able to secure a loan of \$5,000,000 from the Argentine Government, which would enable it to carry out its programme of expansion. The directors had, therefore, decided to increase the dividend to 15 per cent. on the first preferred shares, and to pay a dividend of 5 per cent. on the second preferred shares. The report was adopted.

In the 22nd receipt, but for this his remarks at last year's meeting should have prepared them. Their one disappointment rested with the Central Railway, which, having more than answered the most sanguine expectations as to the volume of its traffic and the amount of the gross receipts, had failed to realise as much net profit as last year. It had to contend with exceptional circumstances and increase of expenditure, which upset all expectations. The Southern Railway had shown better results than anticipated, and Mr. Bury, their managing director, thought that there was a good deal of hope in this, the largest of their railways. As to the position of the debenture debt and the question of perpetuity, no practical step had been possible this year. The board held that Peru was not acting in its own interests in declining to give the corporation perpetuity on reasonable terms. As for the future much was hoped from the pending opening of the Panama Canal. The report was adopted.

**White Pass and Yukon Railway.**—At the ordinary general meeting held on Tuesday, at Winchester House, Old Broad Street, E.C., Mr. C. C. Macrae, who presided, said that the balance of profit was £41,018, compared with £25,840 in the previous year. After deducting sinking fund instalments there remained £25,801, which it was proposed to carry forward. There had been an increase of about 15 per cent. in the tonnage of freight carried by the local companies, principally due to the active development in copper mining in the White Pass territory. In regard to carrying the whole credit balance forward instead of paying a dividend out of it, he said that during the current year the company had been faced with an organised attempt to compete for their traffic which left them no alternative but to fight to hold their own. The war, though telling on the revenue of the company by reason of the cut rates, had resulted in this company maintaining, and he might say, strengthening their position. A situation had been created which would prove of the greatest permanent advantage to the enterprise, but in which it was of the utmost importance to the future interests of this company that its cash resources should be maintained at the highest possible level. The situation was of a character that, having regard to negotiations which were now pending in the way of its development, it was most inexpedient that he should at the present time further explain. The board had reason to hope these negotiations might prove successful, and if so, the position of the White Pass Company would be stronger than it had been at any time in its history, and they might look forward with reasonable grounds of assurance to a future of prosperity for the company and to very much more satisfactory results than those they had experienced in recent years of struggle with aggressive competition and declining traffics. (Applause.) He moved the adoption of the report and the resolution was agreed to.

**Shire Highlands Railway, Nyasaland.**—At the annual meeting on Tuesday in Thames House, Queen Street Place, E.C., Mr. N. B. Dawson, who presided, said that though the accounts for the year showed that the receipts were the highest in the history of the company, they were not so good as had been hoped. The company had, however, not only a very low river to contend with, consequently holding up some of the tonnage they had hoped to carry, but there was a considerable falling off in the native passenger traffic, due to recruiting for the Rand mines being stopped. The crops also were not so heavy as anticipated, owing to a prolonged drought. Notwithstanding these difficulties, they had been able to make a profit of £15,000, and the ratio of working expenses to gross receipts remained about the same, namely, 51.3, as against 51.47 last year. Last year he had stated that the British Central Africa Company were negotiating with the Colonial Office and the Portuguese Government for a railway extension from Port Herald via the River Zambezi. He was glad to state now that these negotiations were brought to a satisfactory conclusion. A new company, the Central Africa Railway Company, had been formed, and construction was now being started. The order, in hand, and it was hoped to have the line opened to traffic within the course of the next eighteen months. That would go far in overcoming the great difficulties of river transport on the Lower Shire, which had for so many years hampered Nyasaland in her progress. Satisfactory terms had been agreed to between this company and the Central Africa Railway Company, by which the former would work the new extension for a period of ten years, and the board hoped that the arrangement would be of benefit, not only to this company and the Central Africa Railway, but to the Protectorate, by ensuring quick and speedy transhipment of goods down to a navigable point on the Zambezi, pending the construction of the railway from Beit to a point on the opposite side of the Zambezi River, which, he was informed, would be proceeded with very shortly, terms having been agreed with the Malabique Company. The report was adopted.

## GENERAL NEWS.

## RAILWAY AND CANAL COMMISSION.

NEW RAILWAY LUGGAGE ALLOWANCE FOR THE SOUTH EASTERN AND CHATHAM RAILWAYS.

Mr. Justice Banks, in the case of *Hardy v. The Great Eastern Railway Co.*, considered an application for a modification of the Luggage Allowance for the South Eastern and Chatham Railway, Sir Alfred Cripps, K.C., M.P., Mr. Maccassey, K.C., Mr. Henson, and Mr. Stone, appeared for the railway companies. The application became necessary under the terms of the Act of 1899, authorising the two railways to be worked as one.

Sir Alfred Cripps stated that there was no formal opposition. The first change proposed was with regard to passenger luggage in excess of the free allowance. In order to put their system on the same level as other railway companies generally, the committee was prepared substantially to increase the weight of passenger luggage carried free. The benefit to the companies would be about £100. At the present time the free allowance to first-class passengers was 120 lbs. They proposed to increase that to 150 lbs. Second-class would be increased from 100 lbs. to 120 lbs. and third-class from 60 lbs. to 100 lbs. The railways also desired to bring up their scale of charges for passenger luggage in advance to the level of other companies, and the additional income they expected to get from this source would be £2,870 a year.

Mr. Francis H. Dent, general manager of the Railway Committee, gave evidence.

Mr. Justice Banks, in stating that the increases would be granted, said that the increased charge for passengers' luggage in excess of the free allowances would only be authorised if and so long as the proposed increases in the free allowances were maintained. They did not mean to order the new rates to be applied.

## REPORT ON THE COLLISION IN A LIVERPOOL STATION.

The Board of Trade issued on December 16th the report of Lieutenant-Colonel E. Druitt, on the collision which occurred on October 15th between two passenger trains at St. James's Station, Liverpool, on the Cheshire Lines. The accident resulted in the death of five passengers and the guard, and injury, in some cases severe, to 63 passengers. While the 2.30 express from Liverpool to Manchester was standing in the station it was run into by the 2.35 Midland train from Liverpool to Stockport, which was following on the same line of rails, with the result that the two rear coaches of the standing train were demolished and derailed and much other damage was done. The Inspector described St. James's Station as a small station in the open between two tunnels. While the 2.30 train was in a tunnel the driver felt the brakes dragging, apparently through the communication cord having been pulled in one of the carriages. It being undesirable to stop in the tunnel he went on to St. James's Station, and while the guard was inquiring whether the communication cord had been pulled the collision occurred. W. Thompson, the signalman at the Central Station, stated that while he was carrying out some shunting operations he saw his tram booker, E. Shorleson, at the block instruments and heard a bell ringing. He assumed, without asking Shorleson or without going to look at the block instrument himself, that the "train out of section" signal had been given for the 2.30 p.m. train, and accordingly lowered the signals for the 2.35 train to leave. Shorleson asked where the second train was going and Thompson then learnt that Shorleson had merely been refusing the down local.

The Inspector, in the course of his remarks, says the practice of allowing booking boys to work the instruments should never be permitted until they are fully qualified as assistant signalmen. "It is hard to understand," he continues, "how a signalman of such long experience and exemplary record as Thompson could fail to carry out the most elementary rule of block working. . . . I think the probable explanation of Thompson's mistake is that he had been so many years at the Central Station signal box, and it was such an unusual occur-

station that he acted mechanically, without thinking, when the signal was pulled."

the Central Station runs through a tunnel, which, at the time, was filled with dense steam and smoke, rendering the signals in it hard to see and making the St. James's up home signal invisible, except when close to it. Had the engine men of the 2.35 p.m. train been able to see the St. James's home signal even at a moderate distance away, which they had every right to expect, no collision would have occurred."

Colonel Druitt recommends that the track circuit on the up line should be extended right through the tunnel to a point beyond St. James's station, whereby all the platform starting signals at the Central Station would be locked in the danger position until the last vehicle of a train proceeding on that line had passed beyond that point. There is very great difficulty, he says, in improving the ventilation of the tunnel.

## PRESIDENT OF THE BOARD OF TRADE ON RAILWAY SAFETY.

Mr. Sydney Buxton, M.P., president of the Board of Trade, speaking on Saturday evening at the annual banquet of the Liverpool Shipbrokers' Benevolent Association, said one of the chief functions of the Board of Trade was to secure, as far as they could, the safety of the travelling public by sea and on our railways. In regard to the railways the Government had appointed a Royal Commission to consider the relation between the railways and the community and the railways and the State. He would not, of course, prejudice the decision to which the Royal Commission might come. It was a strong Commission. Its terms of reference were wide, and it would, he was sure, arrive at conclusions the adoption of which would be to the advantage of the country. "One peculiarity of the late series of railway accidents," Mr. Buxton added, "is that they were all due to what I may call the fallible human element. Some little time ago I requested the inspecting officers of the Board of Trade to take the question of safety into consideration by the light of these accidents, and to make such suggestions as seemed well to them. I am now in possession of their suggestions, and the Board of Trade are in consultation with the railway companies on the one hand and with the representatives of the men on the other in regard to the points raised. (Hear, hear.) I will not add more at present or suggest what further steps it may be found necessary to take, or whether the limited powers which the Board of Trade at present possess should be enlarged, but I want you, I want the public, to realise that the grave and disquieting features involved in some recent accidents are receiving the most careful consideration, with a view, as far as humanly possible, to their avoidance in the future."

## NORTH EASTERN DIRECTOR ON RAILWAY MANAGEMENT.

of the North Eastern Railway Institute at Darlington said there were newspaper writers who professed to teach everyone how to conduct their own businesses. They were told, for instance, that if the railways were nationalised gentlemen sitting in Government departments would manage them better for the shareholders, the employees, and the traders. All

worked by the Government. Laughter. "and the telephones," he might say, were only a trifling matter compared with one railway company. Darlington was growing in importance as a part of the North Eastern Railway system and the

estates had been bought in order that they might be planted

they wanted, but they could not expect these on the other side of the table to be absolutely satisfied either. The position of the North Eastern directors was a difficult one,

shareholders and the employees. The shareholders numbered two-thirds compared with the employees, and many of them were poor people. It was a very difficult thing to increase the transit charges. In the case of beef, coal, etc., when there was a big demand prices were advanced from 20 to 30 per cent., but there would be a howl if the companies increased some of their rates by a modest four per cent. In the case of railways it was very difficult to transfer increased expenditure, and the only way they could hope to benefit was by increasing the efficiency of the service. If the public would not give them the cake they could not have very big slices all round. He was glad to say that the company's receipts were rising at the present time, but there were indications of a rather quieter time in the near future. There was an enormous amount of forward policy going on in the world in connection with which those responsible for the developments of enterprise would have to come to England for much of what they wanted. He hoped that now the men had got a settlement of the matters which had been in dispute, they would push forward the interests of all who were connected with the railway.

#### AN UNUSUAL RAILWAY ACCIDENT.



The Harrasfelsen Tunnel Collapse

#### PERSONAL.

**Mr. Grove**, who has arrived in Melbourne to represent Mr. Merz in supervising the electrification of the suburban railway system, expects to be in that city for about five years.

**Manager to the Port of London Authority.** **Mr. P. L. Smith**, who was elected to the position of chairman of the Authority, has been elected to the position of chairman of the Authority.

**Mr. Chas. Smith**, who was elected to the position of chairman of the Authority, has been elected to the position of chairman of the Authority.

**Mr. A. McLean**, who was elected to the position of chairman of the Authority, has been elected to the position of chairman of the Authority.

**Mr. W. Pickersell**, who was elected to the position of chairman of the Authority, has been elected to the position of chairman of the Authority.

**North of Scotland Railway**, will, it is reported, shortly be

department of the Great Eastern Railway, ultimately becoming

locomotive, carriage, and wagon superintendent. Under Mr.

stock. He has also been prominent in public work at Inverurie.

**Mr. L. Billinton**, the locomotive engineer to the London and Brighton Railway, says that the company is always on the look-out for bright young fellows, and if the directors can get hold of those who have had a good technical education the benefit would be mutual. This remark was made in connection with an announcement that the directors have decided, at the end of the winter session of the Brighton Technical College,

make 75 per cent. of the possible attendances and sit for a

prizes up to £37 per annum for college work, and have arranged that apprentices with the best records shall be given special opportunities of obtaining experience in various shops, and thus get the privileges of pupilship. This offer, Mr. Billinton says, is equivalent to £150 a year, because the boy, who is given the advantages of a pupil, will, instead of becoming an artisan, go through every branch and become a fully qualified railway engineer. The company receive a very small percentage of boys whose parents pay a large premium for the increased advantages of becoming a pupil.

**Mr. C. J. Bowen Cooke**, chief mechanical engineer to the London and North Western Railway, speaking at the prize distribution to the students at the evening classes conducted by the Crewe Higher Education Committee, observed that there were now 36 students attending the Friday afternoon and Saturday morning classes started by the railway company in electricity and mechanical engineering. They were specially

as if they had been at work. The company was trying at Crewe Works to keep pace with developments in the engineering world. He doubted whether there was the same great variety of work going on in any other works. The company made its own rails and its own tyres, and he had just had authority to put down a new tyre mill at Crewe. They were going, not only to make tyres for the locomotives, but for every vehicle that

North Western Railway. One of the their own time had been the invention

engineering in a great many ways. Whether it was hydraulic whinery, or the development of the they would find them all

**Mr. John Farquharson McIntosh, M.V.O.**, after a service of

decided to retire from his position as locomotive superintendent in May next. Mr. McIntosh joined the railway (which was then called the Scottish North Eastern) at Arbroath in 1862, and after duly qualifying in the mechanical as well as in the locomotive running departments was appointed locomotive inspector of the Northern section of the Caledonian Railway in 1876. Six years later he was made district locomotive foreman at Aberdeen, from which he was subsequently promoted to Carstairs Junction, and eventually was put in charge of the company's most important engine shed, namely, at Polmadie. After remaining there for five years he was appointed chief



...the last royal train journey this autumn Mr. McIntosh, where his Majesty in hearty fashion wished him good-bye. Mr. McIntosh, Secretary of the Railway...

## RAILWAY NOTES.

**U.S.A. Railwaymen and Employers' Liability.** The U.S. Senate has commended the enactment of an employers' liability law for the protection of railwaymen.

**The Rio Claro Railway and Investment Company.** The Rio Claro Railway and Investment Company, Ltd., has been formed...

**The Railway Track Supply Company.** Gracechurch Street, London, E.C., have now placed on the market a patent rail anchor for use with bull-headed rails, which is known as the "R.T.S." rail anchor. Tests, already made with this device, show, it is said, that it eliminates rail creep on bull-headed tracks. The company will be pleased to

**Boston and Maine Railroad and Increased Rates.** The Railroad Commissioners have recommended that the Boston and Maine Railroad Company should be allowed a substantial increase in rates, "provided that such additional revenue can be obtained without imposing upon the public unjust or unreasonable trans-

actions." The money be prudently expended in the public interest. The Commissioners declared that the amount of the advance could not be estimated until the road was once more efficiently and properly operated.

**Third-Class P. and O. Voyage to Australia.** The number of people, chiefly those who earn a living, who have proceeded to Australia during the past five years, has shown a remarkable increase. These travellers are exceptionally well catered for in transit facilities. One of the most important passenger lines engaged in the trade—the P. and O. Branch Service—has built five new large twin-screw steamers specially for third-class passengers only, and the next of these ships, the "Berruno," which is to leave London on January 15, offers a fine opportunity for anyone going to Australia who does not wish to spend a large amount of passage money and yet desires comfortable quarters, etc.

**Locomotive Drivers and Electrification.** At the annual dinner of the Locomotive Drivers' Association, the secretary stated that the deputation which waited upon the directors of the Brighton Railway with reference to the driving of electric trains on the third portion

of the London suburban line now being electrified had not yet been able to accomplish much. The fact that men, no matter whom they were, were paid for learning electrification, was regarded as blacklegging them as locomotive men, they were

**Railway Institute at Birmingham.** Recently the London and North Western Railway, by providing and adapting new premises at New Street Station, Birmingham, for the Railway Institute, has enabled Mr. and Mrs. Barrow Cadbury, who have from time to time presented books, a pianoforte, a billiard-room and billiard tables, performed the opening ceremony, when portraits of Mr. and Mrs. Barrow Cadbury were unveiled.

**South Western Company's Reduction in Fares.** With the extensive reduction in fares shortly now in operation on the suburban system of the London and South Western Railway, the Surbiton Council have appointed a deputation for the purpose of seeking reduced return and single fares between that town and Waterloo. The opinion was expressed that road was too much for a single ticket, and it was asserted that the old residential class was leaving the locality.

**New Express Goods Engine for the Brighton Railway.** As the result of a two-months' trial of a new express goods engine, No. 337, "Mogul" type, designed by Mr. L. Billinton for the London, Brighton and South Coast Railway, it is stated that

the present train loads, together with 50 per cent. increase of speed, with considerable reserve of power. The engine recently hauled eighty loaded wagons from Norwood Junction

to Brighton, and at the end of December the second engine of this type will be in use.

**Railway Offers to the British Mannesmann Tube Company.**

The Mannesmann Tube Company, the directors are considering sites offered to them at Newport and Cardiff. The Newport site comprises 200 acres alongside the East Usk Railway branch of the Great Western Railway running parallel with the River Usk. The Cardiff site is situated on the Cardiff Railway, between Heath Junction and Whitchurch Station. The Cardiff Railway Company offered exceptionally low rates for the conveyance of the raw material to the works and the steel bars from the works to the docks.

**Great Eastern Conciliation Board.** As the result of a meeting of the men's side of the Great Eastern Railway Conciliation Board, a deputation was appointed to present the decisions arrived at to the company. It was unanimously decided that a scheme was desirable, but that if it was to prove of greater benefit to the men than the existing one has done up to the present it must undergo amendment in various directions. Mr. W. Hudson, M.P., of the Railwaymen's Union, Mr.

# THE METROPOLITAN CARRIAGE, WAGON AND FINANCE COMPANY, LTD.,

INCORPORATING

Patent Shaft and Axletree Co., Ltd., Docker Bros., Ltd., and the Willingsworth Iron Co., Ltd.

IRON AND STEEL UNDERFRAMES, WHEELS, AXLES, AND EVERY DESCRIPTION OF ROLLING STOCK, PRESSED STEEL BOGIE TRUCKS, The "Brunswick" Weldless Disc Wheel, BRIDGEWORK AND ROOFS, DOCKERS' SUPERIOR VARNISHES, PAINTS, and FINE COLOURS, for all Climates. Dockers' "Hermator" Paints for Structural and all classes of Engineering Work.

\* Reg. Offices: SALTLEY, BIRMINGHAM. London Offices: BRUNSWICK HOUSE, CENTRAL RIDGE, WESTMINSTER, S.W. Telegrams: "METRO," BIRMINGHAM. "RAILCAR," LONDON. "SALTLEY," WESTMINSTER.

London and the Continent. J. M. W. L. Osborne, Esq., of the Great North Eastern Railway, writes: "The Christmas and New Year holidays are the busiest time of the year for the railway."

#### Accidents Due to Hobble Skirts and High Heels.

It is a well-known fact that the number of accidents due to hobble skirts and high heels is increasing. The following is a list of the accidents which have occurred on the Great North Eastern Railway, and the London and North Western Railway, since the beginning of the year. The accidents are as follows:—  
 On the Great North Eastern Railway:—  
 1. A woman, wearing a hobble skirt, fell from a train at York, and was injured.  
 2. A woman, wearing a hobble skirt, fell from a train at Leeds, and was injured.  
 3. A woman, wearing a hobble skirt, fell from a train at Bradford, and was injured.  
 4. A woman, wearing a hobble skirt, fell from a train at Halifax, and was injured.  
 5. A woman, wearing a hobble skirt, fell from a train at Huddersfield, and was injured.  
 6. A woman, wearing a hobble skirt, fell from a train at Wakefield, and was injured.  
 7. A woman, wearing a hobble skirt, fell from a train at Doncaster, and was injured.  
 8. A woman, wearing a hobble skirt, fell from a train at Sheffield, and was injured.  
 9. A woman, wearing a hobble skirt, fell from a train at Manchester, and was injured.  
 10. A woman, wearing a hobble skirt, fell from a train at Liverpool, and was injured.  
 On the London and North Western Railway:—  
 1. A woman, wearing a hobble skirt, fell from a train at London, and was injured.  
 2. A woman, wearing a hobble skirt, fell from a train at Euston, and was injured.  
 3. A woman, wearing a hobble skirt, fell from a train at Finsbury, and was injured.  
 4. A woman, wearing a hobble skirt, fell from a train at St. Pancras, and was injured.  
 5. A woman, wearing a hobble skirt, fell from a train at King's Cross, and was injured.  
 6. A woman, wearing a hobble skirt, fell from a train at Victoria, and was injured.  
 7. A woman, wearing a hobble skirt, fell from a train at Waterloo, and was injured.  
 8. A woman, wearing a hobble skirt, fell from a train at Charing Cross, and was injured.  
 9. A woman, wearing a hobble skirt, fell from a train at Fenchurch Street, and was injured.  
 10. A woman, wearing a hobble skirt, fell from a train at London, and was injured.

#### Railway Clerks and Agitators.

The following is a list of the railway clerks and agitators who have been active in the last few months. The names are as follows:—  
 1. J. M. W. L. Osborne, Esq., of the Great North Eastern Railway.  
 2. J. M. W. L. Osborne, Esq., of the Great North Eastern Railway.  
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#### TRAVELLING ARRANGEMENTS AT CHRISTMAS.

The following is a list of the travelling arrangements at Christmas. The names are as follows:—  
 1. J. M. W. L. Osborne, Esq., of the Great North Eastern Railway.  
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## PECKETTS' LOCOMOTIVES

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RAILWAY CARRIAGE & WAGON CO., LTD.,

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and every description of Rolling Stock.

MIDLAND WORKS, BIRMINGHAM,  
and Abbey Works, Shrewsbury.

Results Docks and Railway				(continued).			
Barry	4	12	94	Great Western, Cons. Prof. 5%	119	120	
Birkenhead and Mersey A.	4	81	93	Highland 1 Class A 4%	100	102	
Do. B.	4	40	92	Do. 2	127	129	
Calcutta	4	93	103	Do. 3	82	84	
Canadian A.	4	8	81	Do. 3 1/2 Prof. Stock 1937	70	72	
Do. B.	4	7	81	Hall and Barnard 3 1/2 Prof. 1893	80	82	
Do. C.	4	71	75	Do. 4	41	43	
Do. D.	4	50	72	London Brighton, etc., Cons. 5%	117	119	
Cardiff	3	70	72	London, Chatham, etc., Arbit. 4 1/2%	84	86	
Central London A.	4	97	97	Do. 5	45	47	
City and South London Perpetual	4	87	77	Lon. & North Western Cons. 4 1/2 Prof.	57	59	
Clarendon and Worthington Joint	4	77	79	Lon. & South Western Cons. 4 1/2 Prof.	95	97	
East London and Croydon A.	4	91	95	Mersey 3 1/2 Corp. Prof.	10	12	
Do. B.	4	9	45	Metropolitan 3 1/2 Prof.	78	80	
Do. 3rd Charge	4	18	21	Do. 3 1/2 Conv. Prof.	75	77	
Do. 4th Charge	4	14	17	Metropolitan District 1st Prof. 4 1/2%	81	83	
Do. E. & F. 1st Charge	4	75	81	Do. 2	79	81	
Do. Whitechapel Extension	4	37	39	M. & D. 1st Charge	79	81	
Fort Bridge	1	97	99	Do. 2nd Charge	79	81	
Great Eastern	4	130	132	Do. 3rd Charge	79	81	
Great Central	4	120	122	Do. 4th Charge	79	81	
Do.	4	103	110	Do. 5th Charge	79	81	
Do.	4	85	91	Do. 6th Charge	79	81	
Great Eastern	4	93	91	Do. 7th Charge	79	81	
Great North of Scotland	4	97	97	Do. 8th Charge	79	81	
Great Northern	4	75	78	Do. 9th Charge	79	81	
Great Northern (Irish)	4	9	9	Do. 10th Charge	79	81	
Great Western	4	100	102	Do. 11th Charge	79	81	
Do.	4	105	105	Do. 12th Charge	79	81	
Do.	4	112	113	Do. 13th Charge	79	81	
Do.	4	124	125	Do. 14th Charge	79	81	
Do.	4	124	125	Do. 15th Charge	79	81	
Highland	4	97	97	Do. 16th Charge	79	81	
Do.	4	2	11	Do. 17th Charge	79	81	
Hay and Barnard A.	4	97	97	Do. 18th Charge	79	81	
Do. B.	4	97	97	Do. 19th Charge	79	81	
Isle of Wight	4	35	35	Do. 20th Charge	79	81	
Isle of Wight A.	4	35	35	Do. 21st Charge	79	81	
Do. B.	4	35	35	Do. 22nd Charge	79	81	
Do. C.	4	73	73	Do. 23rd Charge	79	81	
London and Westminster	4	137	137	Do. 24th Charge	79	81	
London and Blackwall	4	124	125	Do. 25th Charge	79	81	
London and Greenwich	4	97	97	Do. 26th Charge	79	81	
London and North Western	4	93	101	Do. 27th Charge	79	81	
London Chert. and Dover A.	4	111	115	Do. 28th Charge	79	81	
Do. B.	4	107	107	Do. 29th Charge	79	81	
Do. C.	4	107	103	Do. 30th Charge	79	81	
Do. D.	4	107	103	Do. 31st Charge	79	81	
Do. E.	4	107	103	Do. 32nd Charge	79	81	
Do. F.	4	107	103	Do. 33rd Charge	79	81	
Do. G.	4	107	103	Do. 34th Charge	79	81	
Do. H.	4	107	103	Do. 35th Charge	79	81	
Do. I.	4	107	103	Do. 36th Charge	79	81	
Do. J.	4	107	103	Do. 37th Charge	79	81	
Do. K.	4	107	103	Do. 38th Charge	79	81	
Do. L.	4	107	103	Do. 39th Charge	79	81	
Do. M.	4	107	103	Do. 40th Charge	79	81	
Do. N.	4	107	103	Do. 41st Charge	79	81	
Do. O.	4	107	103	Do. 42nd Charge	79	81	
Do. P.	4	107	103	Do. 43rd Charge	79	81	
Do. Q.	4	107	103	Do. 44th Charge	79	81	
Do. R.	4	107	103	Do. 45th Charge	79	81	
Do. S.	4	107	103	Do. 46th Charge	79	81	
Do. T.	4	107	103	Do. 47th Charge	79	81	
Do. U.	4	107	103	Do. 48th Charge	79	81	
Do. V.	4	107	103	Do. 49th Charge	79	81	
Do. W.	4	107	103	Do. 50th Charge	79	81	
Do. X.	4	107	103	Do. 51st Charge	79	81	
Do. Y.	4	107	103	Do. 52nd Charge	79	81	
Do. Z.	4	107	103	Do. 53rd Charge	79	81	
Do. AA.	4	107	103	Do. 54th Charge	79	81	
Do. AB.	4	107	103	Do. 55th Charge	79	81	
Do. AC.	4	107	103	Do. 56th Charge	79	81	
Do. AD.	4	107	103	Do. 57th Charge	79	81	
Do. AE.	4	107	103	Do. 58th Charge	79	81	
Do. AF.	4	107	103	Do. 59th Charge	79	81	
Do. AG.	4	107	103	Do. 60th Charge	79	81	
Do. AH.	4	107	103	Do. 61st Charge	79	81	
Do. AI.	4	107	103	Do. 62nd Charge	79	81	
Do. AJ.	4	107	103	Do. 63rd Charge	79	81	
Do. AK.	4	107	103	Do. 64th Charge	79	81	
Do. AL.	4	107	103	Do. 65th Charge	79	81	
Do. AM.	4	107	103	Do. 66th Charge	79	81	
Do. AN.	4	107	103	Do. 67th Charge	79	81	
Do. AO.	4	107	103	Do. 68th Charge	79	81	
Do. AP.	4	107	103	Do. 69th Charge	79	81	
Do. AQ.	4	107	103	Do. 70th Charge	79	81	
Do. AR.	4	107	103	Do. 71st Charge	79	81	
Do. AS.	4	107	103	Do. 72nd Charge	79	81	
Do. AT.	4	107	103	Do. 73rd Charge	79	81	
Do. AU.	4	107	103	Do. 74th Charge	79	81	
Do. AV.	4	107	103	Do. 75th Charge	79	81	
Do. AW.	4	107	103	Do. 76th Charge	79	81	
Do. AX.	4	107	103	Do. 77th Charge	79	81	
Do. AY.	4	107	103	Do. 78th Charge	79	81	
Do. AZ.	4	107	103	Do. 79th Charge	79	81	
Do. BA.	4	107	103	Do. 80th Charge	79	81	
Do. BB.	4	107	103	Do. 81st Charge	79	81	
Do. BC.	4	107	103	Do. 82nd Charge	79	81	
Do. BD.	4	107	103	Do. 83rd Charge	79	81	
Do. BE.	4	107	103	Do. 84th Charge	79	81	
Do. BF.	4	107	103	Do. 85th Charge	79	81	
Do. BG.	4	107	103	Do. 86th Charge	79	81	
Do. BH.	4	107	103	Do. 87th Charge	79	81	
Do. BI.	4	107	103	Do. 88th Charge	79	81	
Do. BJ.	4	107	103	Do. 89th Charge	79	81	
Do. BK.	4	107	103	Do. 90th Charge	79	81	
Do. BL.	4	107	103	Do. 91st Charge	79	81	
Do. BM.	4	107	103	Do. 92nd Charge	79	81	
Do. BN.	4	107	103	Do. 93rd Charge	79	81	
Do. BO.	4	107	103	Do. 94th Charge	79	81	
Do. BP.	4	107	103	Do. 95th Charge	79	81	
Do. BQ.	4	107	103	Do. 96th Charge	79	81	
Do. BR.	4	107	103	Do. 97th Charge	79	81	
Do. BS.	4	107	103	Do. 98th Charge	79	81	
Do. BT.	4	107	103	Do. 99th Charge	79	81	
Do. BU.	4	107	103	Do. 100th Charge	79	81	
Do. BV.	4	107	103	Do. 101st Charge	79	81	
Do. BV.	4	107	103	Do. 102nd Charge	79	81	
Do. BV.	4	107	103	Do. 103rd Charge	79	81	
Do. BV.	4	107	103	Do. 104th Charge	79	81	
Do. BV.	4	107	103	Do. 105th Charge	79	81	
Do. BV.	4	107	103	Do. 106th Charge	79	81	
Do. BV.	4	107	103	Do. 107th Charge	79	81	
Do. BV.	4	107	103	Do. 108th Charge	79	81	
Do. BV.	4	107	103	Do. 109th Charge	79	81	
Do. BV.	4	107	103	Do. 110th Charge	79	81	
Do. BV.	4	107	103	Do. 111th Charge	79	81	
Do. BV.	4	107	103	Do. 112th Charge	79	81	
Do. BV.	4	107	103	Do. 113th Charge	79	81	
Do. BV.	4	107	103	Do. 114th Charge	79	81	
Do. BV.	4	107	103	Do. 115th Charge	79	81	
Do. BV.	4	107	103	Do. 116th Charge	79	81	
Do. BV.	4	107	103	Do. 117th Charge	79	81	
Do. BV.	4	107	103	Do. 118th Charge	79	81	
Do. BV.	4	107	103	Do. 119th Charge	79	81	
Do. BV.	4	107	103	Do. 120th Charge	79	81	
Do. BV.	4	107	103	Do. 121st Charge	79	81	
Do. BV.	4	107	103	Do. 122nd Charge	79	81	
Do. BV.	4	107	103	Do. 123rd Charge	79	81	
Do. BV.	4	107	103	Do. 124th Charge	79	81	
Do. BV.	4	107	103	Do. 125th Charge	79	81	
Do. BV.	4	107	103	Do. 126th Charge	79	81	
Do. BV.	4	107	103	Do. 127th Charge	79	81	
Do. BV.	4	107	103	Do. 128th Charge	79	81	
Do. BV.	4	107	103	Do. 129th Charge	79	81	
Do. BV.	4	107	103	Do. 130th Charge	79	81	
Do. BV.	4	107	103	Do. 131st Charge	79	81	
Do. BV.	4	107	103	Do. 132nd Charge	79	81	
Do. BV.	4	107	103	Do. 133rd Charge	79	81	
Do. BV.	4	107	103	Do. 134th Charge	79	81	
Do. BV.	4	107	103	Do. 135th Charge	79	81	
Do. BV.	4	107	103	Do. 136th Charge	79	81	
Do. BV.	4	107	103	Do. 137th Charge	79	81	
Do. BV.	4	107	103	Do. 138th Charge	79	81	
Do. BV.	4	107	103	Do. 139th Charge	79	81	
Do. BV.	4	107	103	Do. 140th Charge	79	81	
Do. BV.	4	107	103	Do. 141st Charge	79	81	
Do. BV.	4	107	103	Do. 142nd Charge	79	81	
Do. BV.	4	107	103	Do. 143rd Charge	79	81	
Do. BV.	4	107	103	Do. 144th Charge	79	81	
Do. BV.	4	107	103	Do. 145th Charge	79	81	
Do. BV.	4	107	103	Do. 146th Charge	79	81	
Do. BV.	4	107	103	Do. 147th Charge	79	81	
Do. BV.	4	107	103	Do. 148th Charge	79	81	
Do. BV.	4	107	103	Do. 149th Charge	79	81	
Do. BV.	4	107	103	Do. 150th Charge	79	81	
Do. BV.	4	107	103	Do. 151st Charge	79	81	
Do. BV.	4	107	103	Do. 152nd Charge	79	81	
Do. BV.	4	107	103	Do. 153rd Charge	79	81	
Do. BV.	4	107	103	Do. 154th Charge	79	81	
Do. BV.	4	107	103	Do. 155th Charge	79	81	
Do. BV.	4	107	103	Do. 156th Charge	79	81	
Do. BV.	4	107	103	Do. 157th Charge	79	81	
Do. BV.	4	107	103	Do. 158th Charge	79	81	
Do. BV.	4	107	103	Do. 159th Charge	79	81	
Do. BV.	4	107	103	Do. 160th Charge	79	81	
Do. BV.	4	107	103	Do. 161st Charge	79	81	
Do. BV.	4	107	103	Do. 162nd Charge	79	81	
Do. BV.	4	107	103	Do. 163rd Charge	79	81	
Do. BV.	4	107	103	Do. 164th Charge	79	81	
Do. BV.	4	107	103	Do. 165th Charge	79	81	
Do. BV.	4	107	103	Do. 166th Charge	79	81	
Do. BV.	4	107	103	Do. 167th Charge	79	81	
Do. BV.	4	107	103	Do. 168th Charge	79	81	
Do. BV.	4	107	103	Do. 169th Charge	79	81	
Do. BV.	4	107	103	Do. 170th Charge	79	81	
Do. BV.	4	107	103	Do. 171st Charge	79	81	
Do. BV.	4	107	103	Do. 172nd Charge	79	81	
Do. BV.	4	107	103	Do. 173rd Charge	79	81	
Do. BV.	4	107	103	Do. 174th Charge	79	81	
Do. BV.	4	107	103	Do. 175th Charge			



RAILWAY STOCK AND SHARE LIST.

Colonial Railways.

Foreign Railways.

CLOSING PRICES.

NAME.

CLOSING PRICES.

Yesterday. Last Week. A Year Ago.

Yesterday. Last Week. A Year Ago.

Alameda & Pacific Coast Ry. 1st Mt. Deb.	94	96	94	96	97	99	37	39	37	39	41	43
Alameda Pacific 1st Mt. Deb.	92	92	91	93	95	97	102	104	102	104	104	106
Albion & N.W. Ga. Guar. 1st Mt. Deb.	103	109	102	104	109	111	146	148	147	150	154	158
Albion & N.W. Ga. Guar. 2nd Mt. Deb.	91	93	91	93	95	97	103	106	105	107	106	108
Albion & N.W. Ga. Guar. 3rd Mt. Deb.	54 1/2	57	54	57	59	61	108	108	108	110	111	113
Albion & N.W. Ga. Guar. 4th Mt. Deb.	90	92	90	92	94	96	100	102	100	102	100	102
Albion & N.W. Ga. Guar. 5th Mt. Deb.	87	89	87	89	91	93	94	96	94	96	94	96
Albion & N.W. Ga. Guar. 6th Mt. Deb.	84	86	84	86	88	90	92	94	92	94	92	94
Albion & N.W. Ga. Guar. 7th Mt. Deb.	82	84	82	84	86	88	90	92	90	92	90	92
Albion & N.W. Ga. Guar. 8th Mt. Deb.	80	82	80	82	84	86	88	90	88	90	88	90
Albion & N.W. Ga. Guar. 9th Mt. Deb.	78	80	78	80	82	84	86	88	86	88	86	88
Albion & N.W. Ga. Guar. 10th Mt. Deb.	76	78	76	78	80	82	84	86	84	86	84	86
Albion & N.W. Ga. Guar. 11th Mt. Deb.	74	76	74	76	78	80	82	84	82	84	82	84
Albion & N.W. Ga. Guar. 12th Mt. Deb.	72	74	72	74	76	78	80	82	80	82	80	82
Albion & N.W. Ga. Guar. 13th Mt. Deb.	70	72	70	72	74	76	78	80	78	80	78	80
Albion & N.W. Ga. Guar. 14th Mt. Deb.	68	70	68	70	72	74	76	78	76	78	76	78
Albion & N.W. Ga. Guar. 15th Mt. Deb.	66	68	66	68	70	72	74	76	74	76	74	76
Albion & N.W. Ga. Guar. 16th Mt. Deb.	64	66	64	66	68	70	72	74	72	74	72	74
Albion & N.W. Ga. Guar. 17th Mt. Deb.	62	64	62	64	66	68	70	72	70	72	70	72
Albion & N.W. Ga. Guar. 18th Mt. Deb.	60	62	60	62	64	66	68	70	68	70	68	70
Albion & N.W. Ga. Guar. 19th Mt. Deb.	58	60	58	60	62	64	66	68	66	68	66	68
Albion & N.W. Ga. Guar. 20th Mt. Deb.	56	58	56	58	60	62	64	66	64	66	64	66
Albion & N.W. Ga. Guar. 21st Mt. Deb.	54	56	54	56	58	60	62	64	62	64	62	64
Albion & N.W. Ga. Guar. 22nd Mt. Deb.	52	54	52	54	56	58	60	62	60	62	60	62
Albion & N.W. Ga. Guar. 23rd Mt. Deb.	50	52	50	52	54	56	58	60	58	60	58	60
Albion & N.W. Ga. Guar. 24th Mt. Deb.	48	50	48	50	52	54	56	58	56	58	56	58
Albion & N.W. Ga. Guar. 25th Mt. Deb.	46	48	46	48	50	52	54	56	54	56	54	56
Albion & N.W. Ga. Guar. 26th Mt. Deb.	44	46	44	46	48	50	52	54	52	54	52	54
Albion & N.W. Ga. Guar. 27th Mt. Deb.	42	44	42	44	46	48	50	52	50	52	50	52
Albion & N.W. Ga. Guar. 28th Mt. Deb.	40	42	40	42	44	46	48	50	48	50	48	50
Albion & N.W. Ga. Guar. 29th Mt. Deb.	38	40	38	40	42	44	46	48	46	48	46	48
Albion & N.W. Ga. Guar. 30th Mt. Deb.	36	38	36	38	40	42	44	46	44	46	44	46
Albion & N.W. Ga. Guar. 31st Mt. Deb.	34	36	34	36	38	40	42	44	42	44	42	44
Albion & N.W. Ga. Guar. 32nd Mt. Deb.	32	34	32	34	36	38	40	42	40	42	40	42
Albion & N.W. Ga. Guar. 33rd Mt. Deb.	30	32	30	32	34	36	38	40	38	40	38	40
Albion & N.W. Ga. Guar. 34th Mt. Deb.	28	30	28	30	32	34	36	38	36	38	36	38
Albion & N.W. Ga. Guar. 35th Mt. Deb.	26	28	26	28	30	32	34	36	34	36	34	36
Albion & N.W. Ga. Guar. 36th Mt. Deb.	24	26	24	26	28	30	32	34	32	34	32	34
Albion & N.W. Ga. Guar. 37th Mt. Deb.	22	24	22	24	26	28	30	32	30	32	30	32
Albion & N.W. Ga. Guar. 38th Mt. Deb.	20	22	20	22	24	26	28	30	28	30	28	30
Albion & N.W. Ga. Guar. 39th Mt. Deb.	18	20	18	20	22	24	26	28	26	28	26	28
Albion & N.W. Ga. Guar. 40th Mt. Deb.	16	18	16	18	20	22	24	26	24	26	24	26
Albion & N.W. Ga. Guar. 41st Mt. Deb.	14	16	14	16	18	20	22	24	22	24	22	24
Albion & N.W. Ga. Guar. 42nd Mt. Deb.	12	14	12	14	16	18	20	22	20	22	20	22
Albion & N.W. Ga. Guar. 43rd Mt. Deb.	10	12	10	12	14	16	18	20	18	20	18	20
Albion & N.W. Ga. Guar. 44th Mt. Deb.	8	10	8	10	12	14	16	18	16	18	16	18
Albion & N.W. Ga. Guar. 45th Mt. Deb.	6	8	6	8	10	12	14	16	14	16	14	16
Albion & N.W. Ga. Guar. 46th Mt. Deb.	4	6	4	6	8	10	12	14	12	14	12	14
Albion & N.W. Ga. Guar. 47th Mt. Deb.	2	4	2	4	6	8	10	12	10	12	10	12
Albion & N.W. Ga. Guar. 48th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 49th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 50th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 51st Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 52nd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 53rd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 54th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 55th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 56th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 57th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 58th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 59th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 60th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 61st Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 62nd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 63rd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 64th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 65th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 66th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 67th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 68th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 69th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 70th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 71st Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 72nd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 73rd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 74th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 75th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 76th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 77th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 78th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 79th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 80th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 81st Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 82nd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 83rd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 84th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 85th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 86th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 87th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 88th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 89th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 90th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 91st Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 92nd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 93rd Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 94th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 95th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 96th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 97th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 98th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 99th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11
Albion & N.W. Ga. Guar. 100th Mt. Deb.	1	3	1	3	5	7	9	11	9	11	9	11

## OFFICIAL TRAFFIC RETURNS.

Barry.				Great Northern (Ireland).				Metropolitan.			
Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.	
Total for week	218,942	217,421		Passengers, etc.	4,272	4,116		Passengers, etc.	41	41	
Aggregate for 50 weeks	3,77,977	3,74,747		Goods, etc.	1,116	1,116		Goods, etc.	1	1	
Miles open	654	654		Total for week	5,388	5,232		Total for week	42	42	
Inc. this week	27,412	Inc. 50 weeks	298,767	Aggregate for 50 weeks	55,116	54,744		Aggregate for 50 weeks	21	21	
Caledonian.				Great North of Scotland.				Metropolitan District.			
Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.	
Passengers, etc.	65,500	60,100		Passengers, etc.	24,290	24,290		Passengers, etc.	181	181	
Goods, etc.	4,900	4,900		Goods, etc.	5,680	5,680		Goods, etc.	1	1	
Total for week	70,400	65,000		Total for week	29,970	29,970		Total for week	182	182	
Aggregate for 50 weeks	3,504,178	3,488,000		Aggregate for 50 weeks	128,530	128,530		Aggregate for 50 weeks	9,041	9,041	
Miles open	1,1174	1,1144		Miles open	444	444		Miles open	21	21	
Inc. this week	22,400	Inc. 50 weeks	2340,200	Inc. this week	2,400	Inc. 50 weeks	234,000	Inc. this week	1	Inc. 50 weeks	107
Cambrian.				Great Southern and Western.				Midland.			
Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.	
Passengers, etc.	42,015	41,930		Passengers, etc.	11,789	11,789		Passengers, etc.	477,000	471,000	
Goods, etc.	2,545	2,545		Goods, etc.	13,807	13,807		Goods, etc.	1	1	
Total for week	44,560	44,475		Total for week	25,596	25,596		Total for week	478	472	
Aggregate for 50 weeks	2,224,175	2,224,175		Aggregate for 50 weeks	1,358,835	1,358,835		Aggregate for 50 weeks	13,443,000	12,713,000	
Miles open	4	287		Miles open	114	1,1304		Miles open	13	13	
Inc. this week	2,400	Inc. 50 weeks	114,000	Inc. this week	2,690	Inc. 50 weeks	283,288	Inc. this week	1	Inc. 50 weeks	243
Central London.				Great Western.				Midland Great Western of Ireland.			
Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.	
Total for week	25,370	25,370		Passengers, etc.	11,789	11,789		Passengers, etc.	1	1	
Aggregate for 50 weeks	224,175	224,175		Goods, etc.	13,807	13,807		Goods, etc.	1	1	
Miles open	64	64		Total for week	25,596	25,596		Total for week	2	2	
Inc. this week	2,400	Inc. 50 weeks	234,000	Aggregate for 50 weeks	14,432,000	13,443,000		Aggregate for 50 weeks	4,524,600	4,524,600	
City and South London.				Highland.				North British.			
Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.	
Total for week	42,418	42,418		Passengers, etc.	45,256	45,256		Passengers, etc.	1	1	
Aggregate for 50 weeks	2,183,184	2,183,184		Goods, etc.	5,680	5,680		Goods, etc.	1	1	
Miles open	74	74		Total for week	50,936	50,936		Total for week	2	2	
Inc. this week	2,400	Inc. 50 weeks	213,241	Aggregate for 50 weeks	2,561,140	2,561,140		Aggregate for 50 weeks	4,524,600	4,524,600	
Dublin and South Eastern.				Hull and Barnsley.				North Eastern.			
Week ending Dec. 12	1913.	1912.		Week ending Dec. 12	1913.	1912.		Week ending Dec. 12	1913.	1912.	
Passengers, etc.	43,095	42,971		Passengers, etc.	2,315	2,315		Passengers, etc.	1	1	
Goods, etc.	1,738	1,738		Goods, etc.	4,221	4,221		Goods, etc.	1	1	
Total for week	44,833	44,709		Total for week	6,536	6,536		Total for week	2	2	
Aggregate for 50 weeks	2,224,175	2,224,175		Aggregate for 50 weeks	318,807	318,807		Aggregate for 50 weeks	10,826,725	9,543,103	
Miles open	160	160		Miles open	444	444		Miles open	1	1	
Inc. this week	2,400	Inc. 50 weeks	211,789	Inc. this week	2,690	Inc. 50 weeks	277,620	Inc. this week	1	Inc. 50 weeks	103
Furness.				Lancashire and Yorkshire.				North London.			
Week ending Dec. 14	1913.	1912.		Week ending Dec. 14	1913.	1912.		Week ending Dec. 14	1913.	1912.	
Passengers, etc.	42,280	42,280		Passengers, etc.	73,500	73,500		Passengers, etc.	23,425	23,555	
Goods, etc.	8,689	8,689		Goods, etc.	23,555	23,555		Goods, etc.	5,092	5,151	
Total for week	50,971	50,971		Total for week	97,055	97,055		Total for week	28,517	28,706	
Aggregate for 50 weeks	2,545,324	2,545,324		Aggregate for 50 weeks	4,817,022	4,817,022		Aggregate for 50 weeks	247,846	247,846	
Miles open	139	139		Miles open	444	444		Miles open	1	1	
Inc. this week	2,400	Inc. 50 weeks	259,575	Inc. this week	2,690	Inc. 50 weeks	260,545	Inc. this week	1	Inc. 50 weeks	183
Glasgow and South Western.				London, Brighton and South Coast.				North Staffordshire.			
Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.	
Passengers, etc.	112,720	112,720		Passengers, etc.	43,650	43,650		Passengers, etc.	15,800	15,800	
Goods, etc.	2,545	2,545		Goods, etc.	43,650	43,650		Goods, etc.	15,800	15,800	
Total for week	115,265	115,265		Total for week	87,300	87,300		Total for week	31,600	31,600	
Aggregate for 50 weeks	1,886,600	1,886,600		Aggregate for 50 weeks	2,179,479	2,179,479		Aggregate for 50 weeks	785,725	785,725	
Miles open	4	4		Miles open	444	444		Miles open	1	1	
Inc. this week	2,400	Inc. 50 weeks	125,100	Inc. this week	2,690	Inc. 50 weeks	217,190	Inc. this week	1	Inc. 50 weeks	183
Great Central.				London Electric.				Rhymney.			
Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.	
Passengers, etc.	220,200	220,200		Passengers, etc.	14,820	14,820		Passengers, etc.	1	1	
Goods, etc.	75,100	75,100		Goods, etc.	14,820	14,820		Goods, etc.	1	1	
Total for week	295,300	295,300		Total for week	29,640	29,640		Total for week	2	2	
Aggregate for 50 weeks	5,755,800	5,755,800		Aggregate for 50 weeks	1,185,000	1,185,000		Aggregate for 50 weeks	10,826,725	10,826,725	
Miles open	74	74		Miles open	444	444		Miles open	1	1	
Inc. this week	2,500	Inc. 50 weeks	2504,900	Inc. this week	2,700	Inc. 50 weeks	2900	Inc. this week	1	Inc. 50 weeks	183
Great Eastern.				London and North Western.				South Eastern and Chatham.			
Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.	
Passengers, etc.	53,900	53,900		Passengers, etc.	15,411,000	15,411,000		Passengers, etc.	25,675	25,675	
Goods, etc.	1,738	1,738		Goods, etc.	14,647,000	14,647,000		Goods, etc.	24,180	24,180	
Total for week	55,638	55,638		Total for week	29,058,000	29,058,000		Total for week	49,855	49,855	
Aggregate for 50 weeks	5,555,500	5,555,500		Aggregate for 50 weeks	14,647,000	14,647,000		Aggregate for 50 weeks	2,478,400	2,478,400	
Miles open	1	1		Miles open	444	444		Miles open	1	1	
Inc. this week	1,700	Inc. 50 weeks	294,800	Inc. this week	2,700	Inc. 50 weeks	2900	Inc. this week	1	Inc. 50 weeks	183
Great Northern.				Taft Vale, m.							
Week ending Dec. 13	1913.	1912.		Week ending Dec. 13	1913.	1912.					
Passengers, etc.	42,280	42,280		Passengers, etc.	15,411,000	15,411,000					
Goods, etc.	8,689	8,689		Goods, etc.	14,647,000	14,647,000					
Total for week	50,971	50,971		Total for week	29,058,000	29,058,000					
Aggregate for 50 weeks	2,545,324	2,545,324		Aggregate for 50 weeks	14,647,000	14,647,000					
Miles open	139	139		Miles open	444	444					
Inc. this week	2,400	Inc. 50 weeks	259,575	Inc. this week	2,690	Inc. 50 weeks	277,620				



## OFFICIAL TRAFFIC RETURNS.

## BRITISH AND IRISH RAILWAYS, &amp;c.

## FOREIGN AND COLONIAL.—Continued.

## UNITED STATES RAILWAYS

## FOREIGN AND COLONIAL RAILWAYS

WORKING STATEMENTS AS LAST REPORTED.

[illegible]



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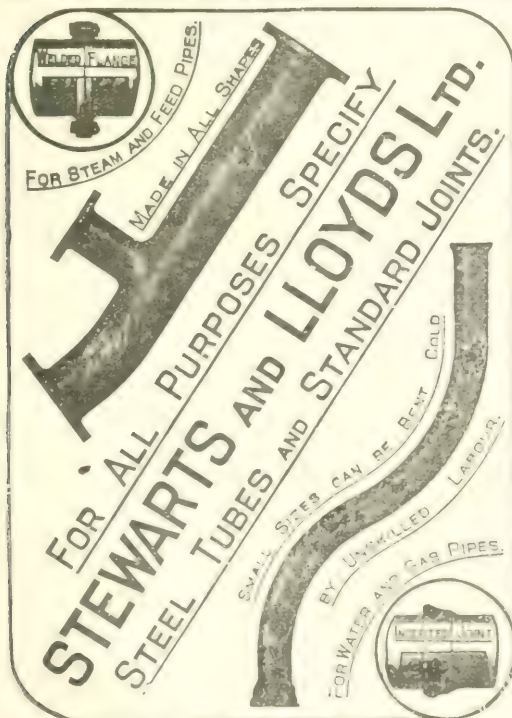
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FOR

# CASUALTY FUND

FOR

**WIDOWS, ORPHANS, AND DISABLED  
RAILWAY OFFICERS & SERVANTS  
1914.**

The usual Annual Appeal is now made by the Railway Benevolent Institution on behalf of the Casualty Fund established to alleviate distress amongst Railway Servants, arising from injury or early or sudden death by accident or otherwise.

All Classes of Railway Servants are invited to contribute one shilling to entitle them to participate in this Fund, and the donations of the Public are earnestly solicited to augment the subscriptions of the men and thereby increase the amount available for the assistance of subscribers and their widows during the year 1914.

Full particulars of the Institution may be obtained of, and any sums, however small, will be thankfully received by, the *Chief Clerks of the Railway Stations*, or

**A. E. MILLS,**

*General Secretary of the Institution.*

133, Seymour Street, Euston Square, London, N.W.

**The following Summary shows that 6 319 persons were assisted out of the Fund collected on New Year's Day, 1913.**

Year.	Number of Railway Servants who subscribed	Killed by Accident.	Injured by Accident.	Died from Illness.	TOTAL RELIEVED
<b>1913</b>	<b>116,472</b>	<b>95</b>	<b>5,812</b>	<b>412</b>	<b>6,319</b>





# The Railway Times

A Journal of Finance, Construction, and Operation.

VOL. CIV.

SATURDAY, DECEMBER 27, 1913.

No. 47.

## PRINCIPAL CONTENTS.

American Rates and Publicity.

## THE RAILWAY TIMES.

Established in 1837.

PUBLISHED EVERY SATURDAY.

Annual Subscription post free, 25 shillings.

All communications for the following issue should be received not later than 6 p.m. on Friday.

New Advertisements or changes in copy for the inside pages must be received not later than 6 p.m. on Friday. Advertisements for the cover must be received by noon on Thursday.

Advertisements of which proof is desired should reach us by the second post on Wednesday.

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## BRITISH AND OTHER SECURITIES AS INVESTMENTS.

The theory of "geographical distribution" has been a great success. It has been a great success in the prevailing fashion to cry down anything British in the way of investment. It has been a great success in the way of applaud anything colonial or foreign as a promising field for the employment of capital. The theory of "geographical distribution" has been a great success in the way of praising the geographical distribution of capital, but in practice the application of this principle frequently implied the sale of solid and substantial home investments, and re-investment in foreign and colonial securities yielding higher rates of interest, but in other respects by no means attractive. The mere fact that a large body of private investors have been steadily putting the theory of "geographical distribution" of capital into practice has, of course, implied that there has been a constant supply of home investments and a correspondingly enhanced demand for foreign and colonial securities. Political animus has had a great deal to do with the matter, and it cannot be denied that certain hasty and careless politicians have given an impetus to an extremely dangerous tendency. At the same time, the manufacturers of foreign and colonial securities of all kinds, and particularly of the speculative description, have been by no means slow to take advantage of the situation. Recent experience has exposed by a series of shocks the underlying folly of the movement. Not that "geographical distribution," if applied within reasonable limits and with a proper regard for the risks associated with the different countries, is in itself unsound, but it has been applied in an altogether extravagant and reckless way. Many investors seem to have proceeded on the assumption that any British security, however good, should be sold at however low a price, and the proceeds reinvested in anything exotic at any price and utterly regardless of risks, known and unknown, associated with the foreign investment. Truly patriotic people who have kept their faith in home investments have been "chortling" lately over the experiences which the investor in foreign securities has had. The biggest shocks have been experienced in those very fields which have been most popular and which have in the last five or ten years received the largest share of the favours of the British investor. Recent events in Mexico, in Brazil, and in Argentina, and more recently in Canada, serve to show that the old principle which led down to the higher the yield the greater the risk is still a sound one, and investors disregard it at their peril. What with the investor in this country has risks enough to do, but they are at least well known risks, and thanks to the political animus of the daily press these risks are never forgotten in relation to foreign investments, however, have been another reminder that in regard to foreign and colonial investments the risks are often greater, but less prominent.

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especially as for the year ended March 31 last the return of 4.04 per cent. was the highest ever earned by the railway, while the preceding year the profit was equal to 3.98 per cent. It appears that only part of the cost of meeting the claims of the second division was charged to the past year, the amount being £44,316. No estimate is given of what is likely to be the total outlay in satisfying the two divisions, but as there are only 14,000 men on the entire system the expenditure as far as it has gone is equal to three shillings per head a week. Fortunately the revenue is on the up grade, the earnings for 1912 having exceeded the estimate by £226,000 and the previous year's earnings by £294,000. The net profit was £1,265,393, as against £1,210,613 in the preceding year, the expenditure totalling £2,931,250. On 2,888 miles of railway the capital expended is thirty-two millions sterling, and the earnings were equal to £445 per mile for the average number of miles open.

The action which has been taken by the railway companies whose lines are situated in the north-eastern quarter of the United States for securing publicity for their claims is probably the most complete which has ever been attempted by any combination of such companies. The course which has been adopted might well be imitated by railway companies in this and other countries whenever necessity arises for concerted action to secure fair play and justice. We have referred from time to time to the application by the 49 leading American companies concerned to the Inter-State Commerce Commission for liberty to make an all-round increase in freight charges averaging about 5 per cent. in order to enable the railways to meet constantly increasing working expenses and to raise additional capital for development, improvement, and extension works. We have also pointed out how strong is the case which the companies put forward. Confident in this themselves, they have organised a publicity campaign. The facts and figures put before the Inter-State Commerce Commission are necessarily most voluminous and complex, so that it is not always convenient or possible for the daily newspapers, especially those of the sort to which most American newspapers belong, to sift out the really important points and publish them in the form that is known as a "story." The railways have come to the assistance of the newspapers and the American public. The presentation of the case to the Inter-State Commission is in charge of a Committee consisting of three of the leading railway men in America, namely, Mr. Daniel Willard, president of the Baltimore and Ohio Railroad; Mr. Samuel Rea, president of the Pennsylvania Railroad Company; and Mr. W. C. Brown, president of the New York Central Lines. Under the authority of this same Committee there are now being distributed broadcast various pamphlets, or bulletins as they are called, which give an epitome of the leading statistics and arguments showing how during recent years the capital liabilities of the railroads have enormously increased, how the gross earnings have also grown to a surprising extent, and how in spite of these facts the net earnings have diminished owing to increased cost of materials, to higher wages and taxes, and to legislative requirements. These bulletins are printed in newspaper column width with wide margins and give a clear and brief exposition of the situation from the railway companies' point of view. A fortnight ago, before any of these pamphlets had reached this country, we touched on a few of the leading figures submitted to the Commission. But one or two further brief citations may be made. For example, in 1903 the 49 railroads received on an average .653 of a cent for each ton of freight carried one mile. In 1912 the figure had dropped to .617 of a cent, representing a loss of 5.8 per cent. in money received for carrying the same weight. During the same period wages

When Mr. J. H. Hiley takes over the duties of chief clerk of the New Zealand Government Railways, he will be carrying out the principal item in the railway policy of the Government, departing considerably from the position taken up by railway administrators in Great Britain, or, indeed, of any of the State railways in the Empire. The difference referred to is to be found in a statement lately made by Mr. J. H. W. H. Horrie, the Minister for Railways, in which he said that it was now time to be recognised that the railway employees were entitled to have their demands met with less compulsion and more than the Government could afford to give. He said that the Government was not in a position to meet the demands of the railway employees, but that it was necessary to do so. He said that the Government was not in a position to meet the demands of the railway employees, but that it was necessary to do so. He said that the Government was not in a position to meet the demands of the railway employees, but that it was necessary to do so.



of employees increased from 100 million dollars to 120 million dollars, and the wages are still being raised. In another bulletin it is pointed out that in nearly every European country within recent years the railways have raised their freight charges to meet the increased cost of working. That increased cost is a result of increased cost of living, and it is pertinently asked why American railways should not be allowed to raise their charges to meet the increase. Although it is probable that the complete hearing before the Inter-State Commission will take some time, it is reported from America that anticipations are already being made that the Commission will generally grant the application of the companies. What warrant there may be for this expectation time will show. The New York correspondent of *The Times*, telegraphing on Monday last, stated that the Commission has approved an increase of 100 per cent. in the rates for grain rates from Illinois to markets of consumption, but has disapproved a proposed increase in proportional rates from upper Mississippi crossings as compared with those from lower crossings. What bearing these decisions will have on the general question remains to be seen. In any case, we return to our point that the companies concerned have taken an admirable step in sowing their explanatory bulletins broadcast. If troublous times come for British railway companies in connection with wage disputes or anything else of a general nature, the Railway Companies Association might well take up some publicity work analogous to that which is being carried out by "the railroads east of the Mississippi and north of the Ohio and Potomac Rivers."

#### RAILWAY ELECTRIFICATION.

**BOMBAY.**—Major Hepper, in giving evidence before the Bombay Development Inquiry Commission, advocated the reconstruction of the Bombay Railway from the Victoria Bridge to a terminus opposite the telegraph office, the line to be used for electrically-hauled suburban traffic only. He suggested that Government might allow the company the use of the necessary Government land, provided the company was prepared to reconstruct their line south of Sandhurst Bridge as an overhead line.

**SWITZERLAND.**—The Standing Committee of the management of the Swiss Federal Railways recently, after considering the question of the electrification of the Erstfeld-Bellinzona section, have decided to throw open to public tender the constructional works, although part would be carried out departmentally. The Federal Railways will build their own hydro-electric stations.

**BAVARIA.**—The Minister for Railways has expressed his opinion that it is desirable to await further experience in connection with the lines already converted to electric traction before proceeding with the projected transformation of the railways leading out of Munich. Electrical working with locomotives is in operation on the lines Garmisch-Partenkirchen-Scharnitz and Garmisch-Griesen, and a mixed system of steam and electric trains will be started in the spring on the line Salzburg-Reichenhall-Berchtesgaden, which will be superseded entirely by electrical working in the course of the summer. The electrical system has suffered from numerous interruptions in the service, while the economy of the method cannot yet be determined with sufficient certainty. The Government is also unable to find purchasers for the surplus power provided at the hydro-electric works.

New Midland Capital. The Midland Railway Company, Limited, has issued a prospectus for the raising of £1,000,000 in new capital. The prospectus states that the company has been authorized by the Board to raise this sum in the form of new capital, and that the new capital will be used for the purpose of providing for the reconstruction of the company's lines, and for the purchase of new rolling stock. The prospectus also states that the company has been authorized by the Board to raise this sum in the form of new capital, and that the new capital will be used for the purpose of providing for the reconstruction of the company's lines, and for the purchase of new rolling stock.

## MONEY AND STOCK MARKETS.

Continuation Days.			Ticket Days.			Pay Day.		
General	..	27	General	..	29	General	..	29
General	..	27	General	..	29	General	..	29
General	..	27	General	..	29	General	..	29
General	..	27	General	..	29	General	..	29

Our usual comparison of the present position of the Bank of England, the Money Market, the Foreign Exchanges, etc., with the position last Friday, and at the corresponding period of last year, is given below.

Tuesday, Dec. 23, 1913.				Tuesday, Dec. 23, 1912.			
Bank of England	..	..	..	Bank of England	..	..	..
Open Market	..	..	..	Open Market	..	..	..
Silver bars, per oz. (spot)	20 1/2 d.	..	..	Silver bars, per oz. (spot)	20 1/2 d.	..	..
Gold	..	..	..	Gold	..	..	..
Foreign	..	..	..	Foreign	..	..	..
London	..	..	..	London	..	..	..
New York	..	..	..	New York	..	..	..
Paris	..	..	..	Paris	..	..	..
Amsterdam	..	..	..	Amsterdam	..	..	..
Brussels	..	..	..	Brussels	..	..	..
Antwerp	..	..	..	Antwerp	..	..	..
Calcutta	..	..	..	Calcutta	..	..	..
Bombay	..	..	..	Bombay	..	..	..
Madras	..	..	..	Madras	..	..	..
Calcutta	..	..	..	Calcutta	..	..	..
Bombay	..	..	..	Bombay	..	..	..
Madras	..	..	..	Madras	..	..	..

The few days which have elapsed since we last went to press have witnessed little change in the monetary position or in the condition of affairs on the Stock Exchange. If anything there has been a slight easing of rates for discount, which is due to the policy of the Bank of England in continuing to take short dated paper at five per cent. For short loans, however, the charge is  $\frac{3}{4}$  per cent. as before. The year approaches its close amid considerable doubts and uncertainty regarding the immediate future of financial conditions. These centre for the most part about the course to be steered by the French Government in the difficulties created by the increased scale of its expenditure. The great loan, which is larger every time it is mentioned, was to have taken precedence of all other market issues, but it has been abandoned and a large issue of Treasury bills proposed.

The French bankers who have already financed the Balkan States and other debtors from their own resources, were prepared to take a large issue of Government paper in this form, and the difficulty seems to have been arranged temporarily by the bankers agreeing to take care of a small issue of Treasury bills, and being allowed to proceed with the conversion of their advances to the recently hostile States, into the more permanent form the public desire, and so put themselves in a better position for dealing with the great French loan later on. Uncertainty, however, still prevails at Paris, and sales of International securities have been pressed from there. In London, on the other hand, the market is quiet.

and indeed rather good, considering the small amount of investing business on which it is based. Consols have improved. Home rails are better if anything, and United States securities are better. The market seems entirely speculative and to be ascribed to the

... by five per cent. was an extraordinary feature. A possible arrangement for dissolution of the Telegraph and Telephone merger also helped to put the market in sanguine mood. Canadian Railways are better and Mexicans at all events are no worse, so that the general trend of the markets has rather been in favour of holders than otherwise.

... looked very well indeed compared with the 10 per cent. of the 20 cent. part. Consols rose 1-10. Nearly a dozen rises of 1 to 1 1/2 were recorded among Home rails. Midland deferred was specially favoured and rose to 72 3/4. Canadas advanced 1 1/2. Trunks 5-10. Mexican Ordinary 1/2. Buenos Ayres Pacific 1. Brazil Common 1/2. When the markets reopened on Monday these movements were not all sustained. There was some talk of a misunderstanding between the British and American Admirals at Tampico, brokers having nothing better to do. Brazil common fell 3/4, and the preferred stock 2. Canadas were 1/2 up. Some further small advances were recorded. The next day steadiness prevailed, considering the fact that the bid for the Government bonds, which British Government stocks followed suit, had only another day to go. It was recorded about 10 a.m. that the market for the day before, a record Northern Deferred received particular attention. American rails were not so buoyant. Canadas rose two points. Trunks also were better. It was stated that the Under-

... of seven out of ten... and is to be ascribed to the bidding of the Government bonds, which British Government stocks followed suit, had only another day to go. It was recorded about 10 a.m. that the market for the day before, a record Northern Deferred received particular attention. American rails were not so buoyant. Canadas rose two points. Trunks also were better. It was stated that the Under-

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Name of Stock	Price	Name of Stock	Rise or Fall
Antofagasta Def. Ord. ....	100 ..	Costa Rica .....	— .. —
Argentine Gt. Western .....	100 ..	Cuban Central .....	— .. —
Buenos Ayres & Pacific .....	100 ..	Leopoldina .....	1/2 .. —
Buenos Ayres Gt. Strm .....	100 ..	Mexican Ordinary....	3/4 .. —
Buenos Ayres Western .....	100 ..	Do. 1st Pref., 8 p.c. ....	— .. —
Central Argentine .....	100 ..	Do. 2nd Pref., 9 p.c. ....	1/2 .. —
Chilean Railway of Mont. ....	100 ..	Nitrato Ordinary.....	— .. 1/4
Cordoba Cent. Ord. ....	100 ..	Ottoman(Smyrna to Aidin) —	— .. —
Do. 1st Pref. ....	100 ..	Un. of Havana Ord. ....	— .. —

BANK RETURN.

The return of the Bank of England for the week ended Wednesday, December 17, compared with that for the previous week, shows the following changes:-

DEPARTMENT.	18. 10. 1913.	Dec. 17, 1913.	Increase.	Decrease.
<b>LIABILITIES.</b>				
£	£	£	£	£
1. Reserve .....	3,224,461	3,224,461	—	—
2. Public Deposits .....	7,880,166	8,028,166	148,000	—
3. Other .....	2,311,250	37,464,517	35,153,267	2,053,267
4. Treasury Bills .....	15,750	18,159	2,409	—
5. Other .....	11,181,036	11,194,036	13,000	9,013
6. Other .....	37,034,414	37,034,414	—	—
7. Other .....	25,114,470	25,028,410	1,213,970	—
8. Other .....	1,377,894	1,176,554	201,340	—
9. Other .....	—	—	2,066,093	2,066,093
10. Other .....	—	—	—	—
11. Other .....	—	—	—	—
12. Other .....	—	—	—	—
13. Other .....	—	—	—	—
14. Other .....	—	—	—	—
15. Other .....	—	—	—	—
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98. Other .....	—	—	—	—
99. Other .....	—	—	—	—
100. Other .....	—	—	—	—

Benevolent Collections on January 1. A... ..

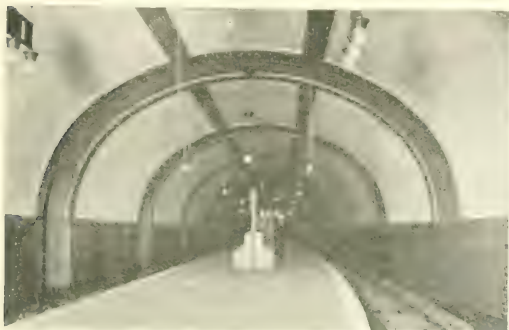
Mileage Coupons on an American Railway. The... ..

The Brighton Company's Pullman Service. A... ..

Do. 1/2 p.c. Cum. Pref.

## HAMBURG OVERHEAD AND UNDERGROUND RAILWAY.

A new railway system is being built in Hamburg (Hoch and Untergrundbahn (Elevated and Underground Railway)). The first section, comprising a route-length of 3.2 miles, has already opened in 1911. It runs from the heart of the city, Rathausmarkt, to the suburb of Barmbeck, at which point the power-station and car maintenance buildings of the system are located. The



Hauptbahnhof Underground Station with Island Platform.

equipment of one 4,000 kw. and two 2,000 kw.

measure to the high train speeds. Every car which weighs 24 metric tons empty, and about 40 tons loaded is equipped



Overhead Structure on Curve and Rodingsmarkt Station

of the three branches planned, those to Ohlsdorf and Elmsbüttel, respectively 3.1 miles and 1.6 miles long, will be completed in 1914, while a two-mile line to Rotenburgsort is to follow later.

The physical construction of the new system is of the most massive character, and the viaduct sections, stations, entrance stairways, etc., are unexcelled for beauty of execution. The maximum gradient does not exceed 4.9 per cent. and the

with two 100-h.p. 800-volt continuous-current commutating pole motors, and as motor cars only are employed, the very high rate of acceleration of 1.5 miles per hour per second is readily attained. The maximum possible speed of the two-car and four-car trains in service is 37.2 miles an hour, the permissible speed 31 miles an hour, and the schedule speed, with 23 stations spaced about 2,500 ft. apart, 17.68 miles an hour. The station stops are very short, namely, 15 to 18 seconds.



Hauptbahnhof Underground Station Entrance

curvature a radius of 233 ft. Current is taken by way of wood-encased contact rail. The system was constructed jointly by the Allgemeine and Siemens and Halske Companies, which formed a special organisation termed a "Bauverwaltung," for that purpose. The State of Hamburg receives defined shares of the gross receipts from the several classes of tickets, and becomes owner of all right-of-way and stationary equipment after 40 years.

That the new service is very popular appears from the fact that the average daily travel now exceeds 100,000 passengers.

It should be added that only one-half the train run over the complete belt, the arrangement being such that a 25-minute service is given over the busy section, and a 45-minute service over the outer part of the ring. Second and third-class fare obtain, but as the former class has 25 per cent. of the seating

division is not considered a financial success. The minimum fares, good for five stations, are 1.25d. for 1st, third-class

at single fares, and season tickets are also sold.



THE LONDON POST OFFICE RAILWAY.

be used in working the authorized Post Office underground railway, which is to be used for the carriage of mails between east and west in London, were given in a paper read by Mr. H. C. Gunton before the Institution of Electrical Engineers, on the 11th of January. The route of the railway is from Farringdon to Aldgate, and the distance is 1.5 mile. The system of traction is the same as that of the City and South London Railway, the current being supplied by a 250-volt direct-current supply from a battery of accumulators. The different sections of the line are divided into three parts, high speed, intermediate speed, and low speed. Between the stations the high speed current will be applied. At the approach to a station the wagons will pass over a short gap in the conductor rails, the brakes (which will be electrically applied when the train is not taking current) will be put on. The next section of conductor rail will normally be "dead," and will be of such a length as to allow the wagon to come to rest. Intermediate

[illegible]

# THE TRAFFIC CAPACITY OF TERMINUS STATIONS FOR URBAN AND SUBURBAN TRAFFIC.

By C. J. DEMPSEY, Director.

THE TRAFFIC CAPACITY OF TERMINUS STATIONS FOR URBAN AND SUBURBAN TRAFFIC. I have previously shown that the traffic capacity of the through stations of the railway depends upon the number of tracks and the number of the reversing tracks. In the case of urban and suburban railways, however, the traffic capacity of the terminus stations is not only affected by the number of tracks, but also by the number of the reversing tracks. The traffic capacity of the terminus stations is not only affected by the number of tracks, but also by the number of the reversing tracks.

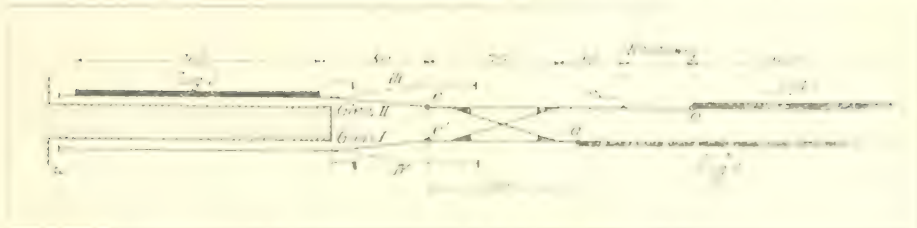


Fig. 1—General plan of terminus station.

Before the introduction of the electric railway, the main lines of the terminus station were arranged through the intermediate stopping places. The bases thus required for the determination of the traffic-capacity of an urban railway have already been discussed several times in detail, and may hence be assumed to be known.

But on urban and suburban railways there are in most cases also terminus stations, and the traffic-capacity of the latter depends on other factors than that of the through stations. In order to ascertain how much the traffic-capacity of such an urban or suburban railway is reduced by the

former paper (b), various arrangements of reversing tracks, I found that terminus stations with dead-ended reversing tracks, suitably designed, the railway being operated electrically, could be arranged so as to have the same traffic capacity as the through stations of the railway and as a reversing loop. In this, I had taken as basis that a quick-transit line in a large town must be able to carry trains 100 metres (450 feet) long, with time intervals of two seconds between successive trains, with safety and without being much affected by minor irregularities. In this investigation, the reversing tracks were placed behind the terminus station (looked at from the open line) as they are as a matter of fact generally arranged, as far as possible, in the case of more recent urban railways (*Hoch- und Untergrundbahn* of Berlin). Nevertheless there are still many urban and suburban railways with terminus stations proper, that is to say stations with dead-ended tracks which end at the platforms; these arrangements are either of older date or could not be constructed, owing to local difficulties, with reversing tracks behind the station. In the case of these stations, the transfer of the train from the one track to the other must take place either when entering the station or when leaving the station. This state of affairs can evidently much reduce the traffic-capacity of such a station. But in connection with my paper already referred to, Dempsey showed in a paper (c) which I will consider later on, that given electric operation, and only in that case, terminus stations of this kind could have as great a traffic capacity as the rest of the line, if the tracks before the station are arranged to cross independently of each other at different levels and are hence converted

into a reversing loop. This is the case with the terminus station of the Berlin railway, which is a reversing loop. The traffic capacity of the terminus station of the Berlin railway is not only affected by the number of tracks, but also by the number of the reversing tracks. The traffic capacity of the terminus station of the Berlin railway is not only affected by the number of tracks, but also by the number of the reversing tracks.

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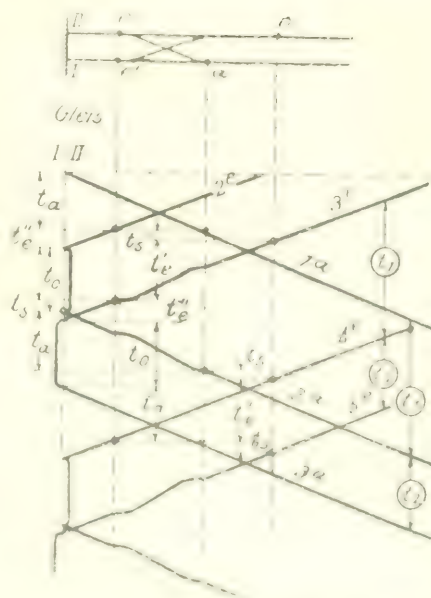


Fig. 2—Detailed plan of terminus station.

into a reversing loop. This is the case with the terminus station of the Berlin railway, which is a reversing loop. The traffic capacity of the terminus station of the Berlin railway is not only affected by the number of tracks, but also by the number of the reversing tracks.

There are, however, many terminus stations in use where a great traffic-capacity is required without tracks crossing.

or outgoing trains:

$t_e'$  = the first part of the time of entering, reckoned from the moment when the head of the train is at braking length from the home signal (point  $a$ ) until the point  $e$  or  $e'$  is cleared (road clear);

$t_e$  = the next, second part of the time of entering, until the train stops;

$t_e - t_e' = t_e$  = the total time of entering;

$j$  = the time required for setting the signals and switches reckoned from the time the road is clear until the setting of the switches of the signal for the road is completed.

The *theoretically shortest time-intervals* between trains are determined from the relations existing, which are shown in Fig. 1. they are more clearly depicted in Fig. 2 in diagrammatic form. The incoming trains are marked  $e$ , the outgoing trains  $a$ . The trains arrive on track I. and on track II. alternately. The incoming trains having odd train numbers run over the scissors crossing and arrive on track I. (they are indicated in the graphic time-table by a serpentine line); the incoming trains with even numbers remain on the straight line and arrive on track II. and run over the scissors crossing when they leave. The operation of the traffic is subordinated chiefly to the dependence of the outgoing trains with even numbers on the incoming trains with odd numbers; and this is the dependence which can only be eliminated by having crossings at different independent levels. The train 2 $a$  cannot depart before the incoming train 3 $e$  has cleared the scissors crossing. Fig. 2 then gives the following relation:

the graphic time-table:

respectively, we have

respectively,

figures, it is in the first place necessary to fix the speed which

gentle application of the brakes, the brakes would then be at the place desired.

place, and under the assumptions made above, this means that 60 seconds are required for the incoming train. Of this time  $t_e = 46$  seconds are wanted for the time until the tail of the

determine the time required, to ascertain what starting acceleration is attainable with either system. According to the statements in the Government proposals relating to electric traction on the Berlin urban, circle and suburban lines, there are to be, in the case of electric traction, 7 driving axles with loads of 17 tons each for a train consisting of 13 cars and weighing, motor cars included, 425 tons, while in the case of steam traction the possible maximum when IDI locomotives are used is only 4 driving axles with similar loads, the total weight of the train being about 400 tons. Assuming a coefficient of friction of about  $\frac{1}{2}$  (as the exit is over curves, in some cases even over switches, one cannot assume a more favourable co-efficient), the mean acceleration in the case of steam traction is 0.22 metre (0.72 ft.) per second per second and in that of electric traction 0.4 metre (1.31 ft.) per second per second. The distance required being 290 metres (317 yards) according to Fig. 1, the time the train requires to leave, namely,  $t_a$  is 38 seconds in the case of electric traction and 52 seconds in that of steam traction.

As  $t_e = 46$  seconds, we have accordingly to reckon, in the case of electric traction with the left and in that of steam traction with the right side of the equations tabulated above.

A distinction has also to be drawn between the two systems of traction when settling the values of  $t_a$  and  $t_s$ . The time required for passengers to get in and out is at least twice as long at terminus stations as at through stations, that is, we have  $t = 50$  seconds at least. In the case of electric traction, this amount also suffices for the reversal of the train, as the electric train can run either end forwards, and as 30 seconds at most are required until the driver of the arrived train has locked and left his compartment, and the new driver has entered what was previously the tail compartment, and has it prepared for the start. In the case of steam traction, the following operations have to be carried out during time  $t_a$ : the new locomotive (which has taken in stores and is waiting ready on siding III. or IV.) has to approach the train and be coupled to it, and the brakes have to be tested. The old locomotive is uncoupled in this time, and hence this operation need not be considered in determining the time  $t_a$ . The three successive operations require, according to observations made at Wannsee station, about 2  $\frac{1}{2}$  minutes. About  $\frac{1}{2}$  minute of this is required for the approach of the new locomotive, and  $\frac{1}{2}$  minute for the brake test, which can, it is true, be simplified very much if this method of operation is adopted, but which nevertheless is indispensable. The remaining 1  $\frac{1}{2}$  minutes are required for the coupling-up; this amount of time is necessary, as besides the draft gear and the brake pipe, there is also the connection for the steam heating at the periods when the train is heated.

As regards the time  $t_s$  required for setting the switches and the signal, 10 seconds have to be allowed if a wholly or partly automatic signalling system is adopted. In the case of steam traction, allowance has to be made for the fact that the locomotive which has brought the train into the station must follow the outgoing train, running light, a certain interval being allowed in the interests of safety, in order to reach siding III. or IV. Hence the road for the next incoming train is also clear, and the corresponding signal can only be set when the light locomotive is no longer in the way. This means that an extra time must be included in  $t_s$ , and for this extra time, also according to observations made at Wannsee station, about 25 seconds have to be allowed. In consequence  $t_s$  amounts in the case of steam traction to 35 seconds; but this only influences  $t_2$ , the train time interval, as the above equations and Fig. 2 show. With  $t_e = 46$  seconds, when in the case of electric traction, the above relations

in the case of locomotive traction the time required for change

When steam traction is adopted.		When electric traction is adopted.	
$t_e$	46	$t_e$	46
$t_a$	52	$t_a$	38
$t_s$	35	$t_s$	25
$t_1$	131	$t_1$	131
$t_2$	131	$t_2$	131
$t_3$	131	$t_3$	131
$t_4$	131	$t_4$	131
$t_5$	131	$t_5$	131
$t_6$	131	$t_6$	131
$t_7$	131	$t_7$	131
$t_8$	131	$t_8$	131
$t_9$	131	$t_9$	131
$t_{10}$	131	$t_{10}$	131
$t_{11}$	131	$t_{11}$	131
$t_{12}$	131	$t_{12}$	131
$t_{13}$	131	$t_{13}$	131
$t_{14}$	131	$t_{14}$	131
$t_{15}$	131	$t_{15}$	131
$t_{16}$	131	$t_{16}$	131
$t_{17}$	131	$t_{17}$	131
$t_{18}$	131	$t_{18}$	131
$t_{19}$	131	$t_{19}$	131
$t_{20}$	131	$t_{20}$	131

It is of course not possible to have such train intervals as a regular average during longer periods of time, say per hour, as they leave no margin for inevitable irregularities, delays, etc. It is just in the case of a terminus station, and there is a limit to a lower limit of the two track



possible at any distance and time, and the possibility of this has been allowed for in the calculation of the average train interval. It is already about  $\frac{1}{2}$  minute late when it reaches the station. In order, therefore, to determine the average train interval it is necessary to add to the shortest interval 30 seconds must be added to the theoretically shortest interval, which can be utilised, as may be required, either for arriving, or departing, or stopping at the station. Thus we obtain the following train time intervals as a possible basis for time table:—

When the Train is	When the Train is
1. 11. 11	1. 11. 11
2. 11. 11	2. 11. 11
3. 11. 11	3. 11. 11

To have the trains running in and out in pairs at intervals of only 80 seconds, does not give rise to any difficulty, although longer intervals are required on the rest of the line, between the through stations (according to the Government proposals for Berlin these amount to 90 seconds, or 40 trains per hour, and 112 seconds or 32 trains per hour in the case of steam traction): for it is of course at once possible to accelerate by a few seconds the second train of such a pair, as compared with the first, on its way from the last through station to the terminus station, and retard it in the opposite direction to a corresponding extent.

If we leave out of consideration the fact that the great difference of the train time-intervals of alternately 117 and 225 seconds, determined in the case of steam traction, makes it more difficult to run the trains regularly, and that this difficulty may result in a modification of the figures obtained, then according to the above investigations the *mean attainable*

hour in each direction.

This shows that such a terminus station reduces the traffic capacity of the line, whatever the system of operation selected. As this in the numerical example taken, as already stated, is according to the Government proposals 40 trains per hour in the case of electric traction and 32 trains per hour in that of steam traction, the reduction of traffic-capacity produced by the terminus station is 17.5 to 35 per cent, that is, it is twice as great, per cent., in the case of steam traction as in that of electric traction.

We will also examine how far these figures can be affected by altering the track arrangement shown in Fig. 1. As already mentioned, if electric traction is adopted, it is at once possible to increase the traffic-capacity of the terminus station so as to make it equal that of the rest of the line, that is, in the example taken, to 40 trains per hour, if the scissors crossing in front of the station is removed and replaced by an arrangement in which the two tracks cross, independently of each other, at different levels. In the case of steam operation, no material advantage is obtained by this alteration, as the greater train-interval required is chiefly due to the changing of locomotives, as the above equations show. Now in his paper mentioned above, Demcke has proposed another alteration in the track in order to favour steam traction: in order to avoid the loss of time which results because the locomotive, running light, follows the outgoing train, so that it takes longer to have the road

scissors crossing in the case of electric operations. But in

to provide for. Moreover, in that case the time interval in the use of steam traction become still more irregular, namely, alternately 225 and 92 seconds, that is nearly in the ratio 1 : 2.5.

According to this calculation, as far as the traffic capacity of the two systems is concerned, electric operation is better in the ratios of 33 : 21 and 40 : 24 respectively. The next question is, how does this result agree with those actually obtained at existing terminus stations. In the case of steam traction no direct comparison can be made, because as far as I know there has hitherto been no case of such a dense traffic operated with steam locomotives at a terminus station. Whether the safety margin allowed would really suffice can only be determined in actual practice. In the case of steam traction there are more possibilities than in the case of electric traction, as there is the changing of locomotives and the locomotive running light following each outgoing train. If in order to allow for this the same percentage addition is taken, as safety margin, in the case of steam operation as in that of electric operation, then the traffic capacity is reduced in the former case from 21 trains to 18 or 19 trains per hour. It may be remarked that at present the maximum at Wainsee station in Berlin is 14 trains per hour, and that it is the opinion of the Berlin directorate that this could be increased, at most, to 16 to 18 trains per hour by improving the installations and arrangements.

In the case of electric traction, the traffic-capacity of a terminus station with scissors crossing, which can be attained is, however, shown by the case, already mentioned, of the Charing Cross station of the Hampstead tube, London. Allowing for the shorter length of the trains running on this line and the consequent smaller dimensions required at the terminus station, where, as a regular thing at the busiest hours, 44 trains arrive and as many depart per hour, we obtain approximately the same safety margin, as compared with the theoretically possible shortest train interval, as in the example worked out. The figures given for electric operation are hence practically correct. Of course the figures are not true everywhere, but vary a little with different circumstances and varying local conditions; these can, however, hardly affect the ratio of the mean train intervals in the cases of

It can hence be considered proved that the traffic capacity of terminus stations of urban and suburban railways can be increased, if electric traction is adopted, by about 50 per cent., as compared with that attainable with steam traction.

#### ELECTRIC POWER SUPPLY FOR NORWEGIAN LINES

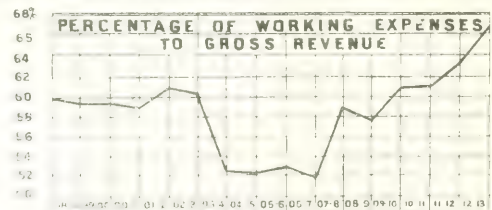
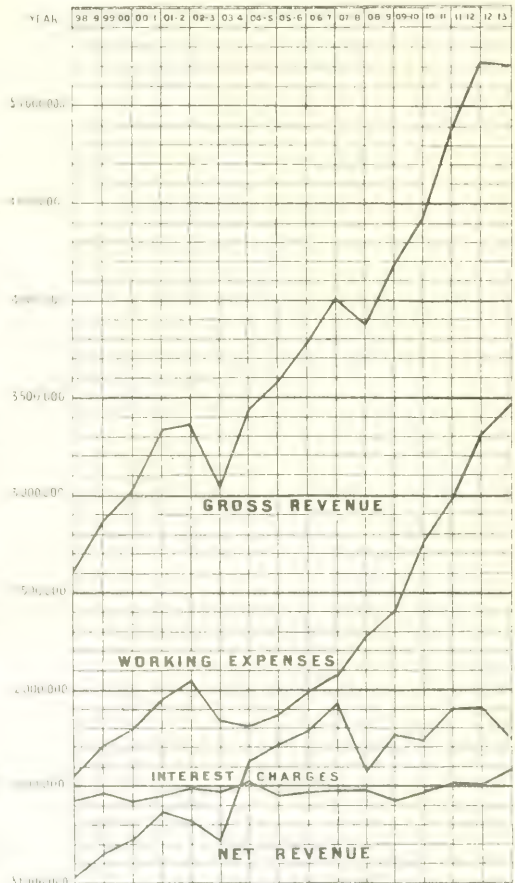
## VICTORIAN RAILWAYS.

The accounts of the Victorian Railways for the year ended 31<sup>st</sup> March 1914, and for the year ended 31<sup>st</sup> March 1913, have been laid before the House of Commons, and will have been made available to the public. The following table, for the year ended 31<sup>st</sup> March 1914, is taken from the accounts, and is compared with the figures for the two previous years, are shown in the accompanying table:—

	Year ended 31 <sup>st</sup> March 1914	Year ended 31 <sup>st</sup> March 1913	Year ended 31 <sup>st</sup> March 1912
<b>TRAFFIC.</b>			
Suburban ..	3,470,907	3,470,907	3,470,907
Goods ..	1,111,514	1,111,514	1,111,514
<b>Total</b>	<b>4,582,421</b>	<b>4,582,421</b>	<b>4,582,421</b>
<b>REVENUE.</b>			
Gross ..	101,234,732	101,234,732	101,234,732
Working expenses ..	41,117,871	41,117,871	41,117,871
Interest charges ..	1,430,000	1,430,000	1,430,000
<b>Net revenue</b>	<b>58,686,861</b>	<b>58,686,861</b>	<b>58,686,861</b>
Suburban ..	8,406,610	8,406,610	8,406,610
Dining Car Service ..	14,241	14,241	14,241
Parcels, &c. ..	207,307	207,307	207,307
Horses, carriages and dogs ..	21,340	21,340	21,340
Motor ..	1,430	1,430	1,430
<b>Total</b>	<b>202,449,3</b>	<b>202,449,3</b>	<b>202,449,3</b>
<b>EXPENDITURE.</b>			
Goods ..	2,085,488	2,085,488	2,085,488
Dining Car Service ..	320,831	320,831	320,831
Motor ..	1,430	1,430	1,430
<b>Total</b>	<b>2,509,082</b>	<b>2,509,082</b>	<b>2,509,082</b>
Per mile of railway worked ..	1,473	1,473	1,473
Transportation Branch ..	961,024	961,024	961,024
Way and Works Branch ..	8,124,38	8,124,38	8,124,38
Repairs and renewals ..	50,000	50,000	50,000
General expenses ..	50,000	50,000	50,000
Payment into Railway A ..	50,000	50,000	50,000
<b>Total</b>	<b>3,310,484</b>	<b>3,310,484</b>	<b>3,310,484</b>
Per mile of railway worked ..	1,430	1,430	1,430
Per traffic train mile ..	955	955	955
<b>Net revenue after payment of working expenses</b>	<b>58,686,861</b>	<b>58,686,861</b>	<b>58,686,861</b>
Per mile of railway worked ..	1,430	1,430	1,430
Per traffic train mile ..	955	955	955
<b>Net revenue of St. Kilda Street Railway ..</b>	<b>1,430</b>	<b>1,430</b>	<b>1,430</b>
<b>Total net revenue</b>	<b>1,430,570</b>	<b>1,430,570</b>	<b>1,430,570</b>
Interest charges ..	1,430,000	1,430,000	1,430,000
Pensions and gratuities ..	1,430	1,430	1,430
<b>Total</b>	<b>282,073</b>	<b>282,073</b>	<b>282,073</b>

The increase in the working expenses was due to—

- (a) The additional train mileage, viz., 308,175 miles, which was in a considerable measure occasioned by the provision, in accordance with the directions of the Government, of at least one passenger train daily to and from Melbourne and every town with a population of at least 2,000 inhabitants;



- (b) The increased scale of payment and the improved working conditions provided for the staff.
- (c) The increased wages paid to certain supernumerary artisans in accordance with new or amended Wages Board determinations;
- (d) The operation and maintenance of the new lines of railway from Noradjuha to Toolooloolo and Jeparit to Longdon, and of the lines from Cressy to Newtown, and from Hurstbridge, which were open for only a portion of the year.

The net revenue, after the payment of working expenses and of pensions and gratuities was equivalent to 3.50 per cent. of the total liability in respect of current loans allocated to the railway.

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Surplus for year 1912-13 .. £22,250

Broadly speaking, the comparatively unfavourable result is due to the concessions in freight charges, which were made in January, 1912; to the improved train facilities which have been provided in a greater proportion than the increase in traffic; to the higher cost of materials, etc.; to the increased interest charges; and to the very appreciable concessions which have been made to the staff.

The Commissioners say that the occasion is opportune to direct attention to the obligations of the current year and to the necessities of the future. The development of business during the past few years has been so marked that it will be essential to continue to incur heavy expenditure at a number of stations in order to increase the accommodation and in order to duplicate lines, to provide a new locomotive depot, to electrify the Melbourne suburban lines, etc. These works will not only entail much capital outlay, but will also involve a considerable contribution from the working expenses, and it is probable that both interest charges and working expenses will for some time progress in greater ratio than any increase which could reasonably be anticipated in the revenue. This aspect will have to be borne strongly in mind in the consideration of any question involving further concessions in the way of either fares and freights or improved train services.

The total capital expenditure at the end of the year was £17,050,000, being an increase during the twelve months of £1,000,000.

The length of new lines opened for traffic during the year was 27 miles and the new lines under construction, of 51 ft. 6 in. gauge, measure 242½ miles.

#### CONCESSIONS TO EMPLOYEES.

In consequence of the increase in the cost of living and of the gradual betterment in the conditions of employment generally it has been necessary to make appreciable concessions to the staff during the past few years, both by the adoption of a higher scale of wages for many grades and by other improvements in the working conditions. The total addition to the working expenses owing to these concessions for the four years ended June, 1913, amounted to £422,580. The working expenses in the same conditions of wages been in effect as in the year 1908.

It is the Commissioners' desire that the staff be granted reasonable rates of pay, having regard to all the surrounding circumstances, and that the salaries and wages should neither be inflated in times of unusual prosperity nor subjected to deduction in periods of depression or of financial stringency. This viewpoint has been kept in the foreground in connexion with the compilation and revision of the different regulations.

of wages, which is now in course of preparation, has been brought into complete operation, together with other contemplated concessions, all reasonable demands for higher remuneration and betterment of conditions will have been satisfied, and that so long as existing conditions prevail there will not be justification for any material or general increase in the rates of pay.

The Commission's report was submitted to the Government to review the report which he submitted in 1908, and the Government has decided to refer the report to a further investigation. The Commissioners supported his recommendation.

#### PER TRAIN MILE RUN

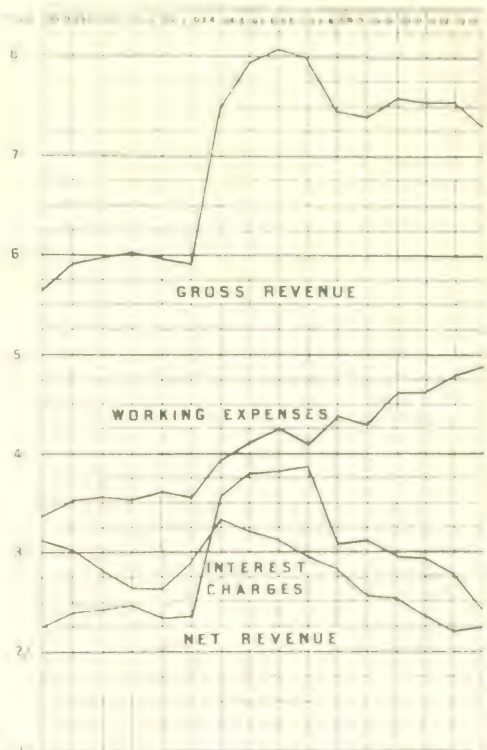
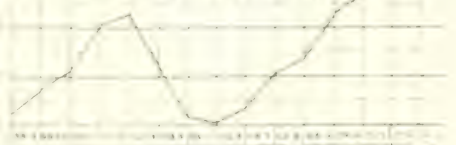


Fig. 1

#### TRAIN MILES RUN



current and direct current systems, considered in the view more advantageous to adopt.



Siemens Brothers, England . . . Substation equipment to the ex-

frames and bogies of the motor coaches, and the arrangement of the Westinghouse brake and the alterations in the bodies of the coaches to provide for the driving equipment, whilst the location of the twelve sub-stations has been determined, and plans for some of them have been forwarded to Mr. Mer-

requirements of the different services

classes are of similar design, & which, coupled, with Belpane suit the different services, and they have been so designed

The standard carriages consist of 71 foot compartments.

cars for suburban lines: and since January, 1911, fifty narrow-gauge cars have been constructed, and the equivalent of 44 new bogie cars for suburban running has been provided by the lengthening of existing stock, whilst no less than 131 of the old type of fixed-wheel-base cars have been permanently withdrawn from passenger traffic.

The types of truck stock have also been standardised, and for general goods traffic open steel trucks with a capacity of 15 tons are being manufactured, and 3,718 of these trucks have been constructed since January, 1911. The additions which have been made to the rolling stock are shown by the following comparative statement:—

In giving further details in regard to the provision and maintenance of rolling stock, the Commissioners mention that in pursuance of the programme of construction of locomotives to meet the continued expansion of traffic, the manufacture of locomotives and the assembling of parts made by contractors were proceeded with at the Newport workshops, and 45 new locomotives were turned out during the year. The construction of new rolling stock was actively proceeded with, the total output from the railway works, including locomotives, carriages and vans, being 907 vehicles, while 710 goods trucks were obtained from contractors.

The two McKeen gasoline rail motor cars have been utilised between Maryborough and St. Arnaud, and between Hamilton and Warrnambool, and have given satisfactory service within the limit of their capacity. The experience which has been gained, however, is sufficient to confirm the view expressed by the Commissioners when the subject of their purchase was under consideration, that the total cost of running and maintenance would be higher than that involved in the case of a light locomotive and train, capable of at least equally satisfactory service.

In view of the conversion of the railways from steam to electric traction and of the facilities which will thus be afforded for the adoption of some system of automatic signalling, it was considered that the interests of the State would be best served by an investigation of the different systems in operation in Great Britain, Europe and America by responsible departmental experts who are thoroughly conversant with local conditions, and it was accordingly arranged that the chairman of commissioners, Mr. W. F. Fitzpatrick, C.M.G., the engineer of signals, Mr. F. M. Calcutt, and the super-

Mr. E. C. Blazey, should be sent to Melbourne and personally investigate the different points, and then confer with Mr. Merz on the subject. Mr. Blazey sailed from Melbourne on March 10.

He was also well convinced that the knowledge which the chairman and these two officers possessed in respect of automatic signalling and the operation of the same was far in advance of any other railway staff in the State. It was not possible personally to send the two officers to Europe and America, in order to gain the latest technical knowledge of the railway signalling and method.

Midland Railway	Improvements at Bradford.	1869-70
	(The Great Northern & Midland R.R.)	
Chapman		

[illegible]

**South Africa Railways.** In order to reduce the gradient, a 10-mile deviation in an exceptionally heavy country is to be made. The new line will be 10 miles longer than the existing line, but will save 100,000 tons of material. The new line will be 10 miles longer than the existing line, but will save 100,000 tons of material.

## MEETINGS AND REPORTS.

### FORTHCOMING MEETINGS.

1906	1	Forestal Land Timber and Railways
1906	2	Pekin Syndicate
1906	3	Clogher Valley Railway
1906	4	Rio Claro Railway and Investment Company
1906	5	Great Indian Peninsula
1906	6	London and Greenwich Railway
1906	7	North and South Western Junction Railway

## PEKIN SYNDICATE.

marked result before closing the accounts under review. The

## Burma Railway

## NEW PUBLICATIONS.

## "Who's Who," 1914

"Who's Who" Year Book, 1914-15

## Englishwoman Year Book and Directory, 1944

## London and North Western Railway

The Pennsylvania Railroad Company has appointed a committee which will have as its chief duty it to study the matter more fully and to develop definite "Safety First" Committees in all divisions and their work is to eliminate practices which may cause accidents. The campaign for safety is being carried on by the Pennsylvania Railroad system which employs 270,000 men and carries 150,000,000 passengers every year. During the last four years the Pennsylvania Railroad lines east of Pittsburgh have spent nearly \$500,000 in following the special recommendations of safety committees in small matters, altogether apart from larger expenditures in signals, steel cars, and other more obvious improvements. These safety committees have made suggestions which have been adopted and many accidents have been prevented. As a result of the program, the number of serious accidents has been reduced within three years by one-third. It is expected that further reduction will come.

The railroad company has also organized a leader organization. This group consists of one employee on the fine points of safe operation. Where one employé was interested in the "Safety First" movement four years ago there are now ten.



## THE LAW AS TO DEMURRAGE IN SCOTLAND.

It is a well-known fact that in Scotland the law as to demurrage is different from that in England. In the case of the Caledonian Railway Co. v. The Sheriff-Substitute, the court held that the law as to demurrage in Scotland is that the most of these were placed by pursuers in a siding, known as No. 12, and a very small number of them in other sidings; that pursuers gave no notice of the arrival of wagons which they had placed in Siding No. 12; that it was necessary to give notice to defender as a condition of suing him for failure to prove notice of arrival as regards wagons placed by them in other sidings, they could not insist in the action. He therefore assailed the defender, with expenses.

The Sheriff-Substitute in a note appended to his judgment said that the railway company sued for £138 9s. in name of demurrage. By circular, dated August 1, 1908, the Caledonian, Glasgow and South Western, and North British Railway Companies gave notice that from and after February 1, 1909, demurrage charges in respect of undue detention of wagons belonging to them would be enforced. The traders applied to the Board of Trade, which sent the dispute for determination to the Court of the Railway and Canal Commission. Judgment was given by that Court on January 23, 1913, and they issued an Order dated June 26, 1911. The Caledonian Railway Company founded this case on two findings in the Order. As he read finding 2, pursuers had to show that they had allocated exclusively to him a siding "not being in or at a station." In his view the evidence showed that the company had not exclusively allocated to defender any siding, and certainly not a siding which was "not in or at a station." The evidence showed that that siding was a part of Govan Station. The construction of finding 3 of the Order caused him more difficulty. What did the expression "after receipt of notice" mean? His view was that "receipt of notice" was a statement of a thing and not a mere supplying of materials from which the existence of such a thing—e.g., the arrival of wagons—might be inferred. He thought that the reasonable construction of the expression was not satisfied by a railway company showing only that a trader like defender had knowledge of traffic addressed to him. If he was right in thinking that Siding No. 12 was not a siding in the sense of finding 2 of the Order, then the chief part of the action against defender failed, for the most of the account sued for admittedly related to wagons placed in that siding. There were a few items in the account which related to demurrage for wagons placed not in Siding No. 12, but the company

## THE ARGENTINE RAILWAY DIFFICULTY.

The Argentine Government has been unable to reach an agreement with the Southern Railway and Mr. J. Percy Clarke, general manager, of the Southern Railway, of the Government of Buenos Aires, to initiate amicable negotiations for a satisfactory arrangement. The Government's railway scheme, many of the proposed lines, have been delayed for a few days later.

## PERSONAL.

Mr. J. O'Reilly, Mr. D. Mackinnon, Mr. Fred C. Salter, Mr. Colonel James Ross, Mrs. Elizabeth Knight, Mr. Joseph Ingram, Mr. T. Edgar, Mr. Gray, Mr. L. J. 100.

## PECKETTS' LOCOMOTIVES

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ATLAS LOCOMOTIVE WORKS, BRISTOL.

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RAILWAY WAGONS,  
TRAMWAY CARS,

and every description of Rolling Stock.

MIDLAND WORKS, BIRMINGHAM,  
and Abbey Works, Shrewsbury.

## RAILWAY NOTES.

**Australian Contracts for Sheffield.** The London and North Western Railway has secured the contract for the supply of 100,000 tons of steel for the construction of the new line from Sheffield to the North Sea.

**The Railwaymen's Convalescent Homes.** The King has sent his personal thanks to the Railwaymen's Convalescent Homes for the services rendered by them during the year.

**British Railway Companies' Contracts.** A large number of contracts for the supply of steel for the construction of new lines and the repair of old lines have been awarded to the British Railway Companies.

**London and North Western Acquire a Staffordshire Light Railway.** The London and North Western Railway has acquired the Staffordshire Light Railway.

**Orders for Rails from British Companies.** The London and North Western Railway has ordered 100,000 tons of steel for the construction of new lines and the repair of old lines.

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## COMPANY NOTICES.

**Portuguese Government Guaranteed Railway Bonds.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**The Great Indian Peninsula Railway Company.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

## TENDERS INVITED.

**The Great Indian Peninsula Railway Company.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

## OFFICIAL ADVERTISEMENTS.

**NOTICE.**

**NOTICE.**

**NOTICE.**

**NOTICE.**

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**NOTICE.**

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## RAILWAY STOCK AND SHARE LIST.

## Colonial Railways.

## CLOSING PRICES.

	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569	1568	1567	1566	1565	1564	1563	1562	1561	1560	1559	1558	1557	1556	1555	1554	1553	1552	1551	1550	1549	1548	1547	1546	1545	1544	1543	1542	1541	1540	1539	1538	1537	1536	1535	1534	1533	1532	1531	1530	1529	1528	1527	1526	1525	1524	1523	1522	1521	1520	1519	1518	1517	1516	1515	1514	1513	1512	1511	1510	1509	1508	1507	1506	1505	1504	1503	1502	1501	1500	1499	1498	1497	1496	1495	1494	1493	1492	1491	1490	1489	1488	1487	1486	1485	1484	1483	1482	1481	1480	1479	1478	1477	1476	1475	1474	1473	1472	1471	1470	1469	1468	1467	1466	1465	1464	1463	1462	1461	1460	1459	1458	1457	1456	1455	1454	1453	1452	1451	1450	1449	1448	1447	1446	1445	1444	1443	1442	1441	1440	1439	1438	1437	1436	1435	1434	1433	1432	1431	1430	1429	1428	1427	1426	1425	1424	1423	1422	1421	1420	1419	1418	1417	1416	1415	1414	1413	1412	1411	1410	1409	1408	1407	1406	1405	1404	1403	1402	1401	1400	1399	1398	1397	1396	1395	1394	1393	1392	1391	1390	1389	1388	1387	1386	1385	1384	1383	1382	1381	1380	1379	1378	1377	1376	1375	1374	1373	1372	1371	1370	1369	1368	1367	1366	1365	1364	1363	1362	1361	1360	1359	1358	1357	1356	1355	1354	1353	1352	1351	1350	1349	1348	1347	1346	1345	1344	1343	1342	1341	1340	1339	1338	1337	1336	1335	1334	1333	1332	1331	1330	1329	1328	1327	1326	1325	1324	1323	1322	1321	1320	1319	1318	1317	1316	1315	1314	1313	1312	1311	1310	1309	1308	1307	1306	1305	1304	1303	1302	1301	1300	1299	1298	1297	1296	1295	1294	1293	1292	1291	1290	1289	1288	1287	1286	1285	1284	1283	1282	1281	1280	1279	1278	1277	1276	1275	1274	1273	1272	1271	1270	1269	1268	1267	1266	1265	1264	1263	1262	1261	1260	1259	1258	1257	1256	1255	1254	1253	1252	1251	1250	1249	1248	1247	1246	1245	1244	1243	1242	1241	1240	1239	1238	1237	1236	1235	1234	1233	1232	1231	1230	1229	1228	1227	1226	1225	1224	1223	1222	1221	1220	1219	1218	1217	1216	1215	1214	1213	1212	1211	1210	1209	1208	1207	1206	1205	1204	1203	1202	1201	1200	1199	1198	1197	1196	1195	1194	1193	1192	1191	1190	1189	1188	1187	1186	1185	1184	1183	1182	1181	1180	1179	1178	1177	1176	1175	1174	1173	1172	1171	1170	1169	1168	1167	1166	1165	1164	1163	1162	1161	1160	1159	1158	1157	1156	1155	1154	1153	1152	1151	1150	1149	1148	1147	1146	1145	1144	1143	1142	1141	1140	1139	1138	1137	1136	1135	1134	1133	1132	1131	1130	1129	1128	1127	1126	1125	1124	1123	1122	1121	1120	1119	1118	1117	1116	1115	1114	1113	1112	1111	1110	1109	1108	1107	1106	1105	1104	1103	1102	1101	1100	1099	1098	1097	1096	1095	1094	1093	1092	1091	1090	1089	1088	1087	1086	1085	1084	1083	1082	1081	1080	1079	1078	1077	1076	1075	1074	1073	1072	1071	1070	1069	1068	1067	1066	1065	1064	1063	1062	1061	1060	1059	1058	1057	1056	1055	1054	1053	1052	1051	1050	1049	1048	1047	1046	1045	1044	1043	1042	1041	1040	1039	1038	1037	1036	1035	1034	1033	1032	1031	1030	1029	1028	1027	1026	1025	1024	1023	1022	1021	1020	1019	1018	1017	1016	1015	1014	1013	1012	1011	1010	1009	1008	1007	1006	1005	1004	1003	1002	1001	1000	999	998	997	996	995	994	993	992	991	990	989	988	987	986	985	984	983	982	981	980	979	978	977	976	975	974	973	972	971	970	969	968	967	966	965	964	963	962	961	960	959	958	957	956	955	954	953	952	951	950	949	948	947	946	945	944	943	942	941	940	939	938	937	936	935	934	933	932	931	930	929	928	927	926	925	924	923	922	921	920	919	918	917	916	915	914	913	912	911	910	909	908	907	906	905	904	903	902	901	900	899	898	897	896	895	894	893	8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Barry &

Great Northern (Ireland).

Metropolitan District.

Week ending 14	1913	1912
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£100,000	£100,000
Miles open	100	100
Inc. this week	£1,000	£1,000

Caledonian.

Week ending 14	1913	1912
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£100,000	£100,000
Miles open	100	100
Inc. this week	£1,000	£1,000

Cambrian.

Week ending 14	1913	1912
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£100,000	£100,000
Miles open	100	100
Inc. this week	£1,000	£1,000

Central London.

Week ending 14	1913	1912
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£100,000	£100,000
Miles open	100	100
Inc. this week	£1,000	£1,000

City and South London.

Week ending 14	1913	1912
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£100,000	£100,000
Miles open	100	100
Inc. this week	£1,000	£1,000

Dublin and South Eastern.

Week ending 14	1913	1912
Passengers, etc.	£3,095	£2,971
Goods, etc.	1,936	1,669
Total for week	£5,031	£4,640
Aggregate for 50 weeks	£251,574	£236,240
Miles open	160	160
Inc. this week	£452	£418
Inc. 50 weeks	£11,289	£10,711

Furness.

Week ending 14	1913	1912
Passengers, etc.	£2,282	£2,132
Goods, etc.	8,689	8,689
Total for week	£10,971	£10,821
Aggregate for 50 weeks	£548,579	£548,579
Miles open	139	139
Inc. this week	£1,021	£1,021
Inc. 50 weeks	£59,575	£59,575

Glasgow and South Western.

Week ending 14	1913	1912
Passengers, etc.	£12,700	£12,700
Goods, etc.	20,500	19,900
Total for week	£33,200	£32,600
Aggregate for 50 weeks	£1,826,900	£1,826,900
Miles open	40	40
Inc. this week	£1,000	£1,000
Inc. 50 weeks	£125,100	£125,100

Great Central.

Week ending December 13	1913	1912
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£100,000	£100,000
Miles open	100	100
Inc. this week	£1,000	£1,000

G.C. proportion of Joint Lin.

Total for week	£1,000	£1,000
Aggregate for 50 weeks	£1,000	£1,000
Miles open	100	100
Inc. this week	£2,500	£2,500

Great Eastern.

Week ending December 14	1913.	1912.
Passengers, etc.	£5,555,500	5,560,700
Goods, etc.	15,997	16,310
Total for week	£5,571,497	5,577,010
Aggregate for 50 weeks	£278,574	278,574
Miles open	100	100
Inc. this week	£1,700	£1,700
Inc. 50 weeks	£91,900	£91,900

Great Northern.

Week ending 14	1913	1912
Passengers, etc.	£42,700	£40,300
Goods, etc.	74,700	74,700
Total for week	£117,400	£115,000
Aggregate for 50 weeks	£5,078,100	£5,078,100
Miles open	100	100
Inc. this week	£10,400	£10,400
Inc. 50 weeks	£380,400	£380,400

Week ending 14	1913	1912
Passengers, etc.	£3,185	£3,185
Goods, etc.	£1,000	£1,000
Total for week	£4,185	£4,185
Aggregate for 50 weeks	£209,250	£209,250
Miles open	100	100
Inc. this week	£1,000	£1,000

Great North of Scotland.

Week ending 14	1913.	1912.
Passengers, etc.	£2,280	£4,160
Goods, etc.	5,250	5,000
Total for week	£7,530	£9,160
Aggregate for 50 weeks	£505,700	£472,671
Miles open	100	100
Inc. this week	£1,000	£1,000

Great Southern and Western.

Week ending 14	1913.	1912.
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£97,741	£97,741
Miles open	100	100
Inc. this week	£1,000	£1,000
Inc. 50 weeks	£85,043	£85,043

Great Western.

Week ending December 14	1913.	1912.
Passengers, etc.	£162,000	£109,000
Goods, etc.	162,000	156,000
Total for week	£324,000	£265,000
Aggregate for 50 weeks	14,452,000	13,495,000
Miles open	100	100
Inc. this week	£1,000	£1,000

Highland.

Week ending December 14	1913.	1912.
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£100,000	£100,000
Miles open	100	100
Inc. this week	£1,000	£1,000

Hull and Barnsley.

Week ending December 14	1913.	1912.
Passengers, etc.	£315	£315
Goods, etc.	16,492	16,465
Total for week	£16,807	£16,780
Aggregate for 50 weeks	£761,327	£688,707
Miles open	100	100
Dec. this week	£574	£574
Inc. 50 weeks	£77,620	£77,620

Lancashire and Yorkshire.

Week ending 14	1913.	1912.
Passengers, etc.	£35,000	£33,637
Goods, etc.	73,500	73,555
Total for week	£108,500	£107,192
Aggregate for 50 weeks	£5,418,477	£5,418,477
Miles open	100	100
Inc. this week	£1,000	£1,000

London, Brighton and South Coast.

Week ending December 20	1913.	1912.
Passengers, etc.	£35,000	£35,000
Goods, etc.	16,397	16,310
Total for week	£51,397	£51,310
Aggregate for 50 weeks	£3,500,889	£3,555,674
Miles open	100	100
Inc. this week	£1,000	£1,000

London Electric.

Week ending 14	1913.	1912.
Passengers, etc.	£64,816	£64,816
Goods, etc.	224	224
Total for week	£65,040	£65,040
Aggregate for 50 weeks	£3,251,100	£3,251,100
Miles open	100	100
Inc. this week	£1,000	£1,000

London and North Western.

Week ending December 14	1913.	1912.
Passengers, etc.	£105,000	£107,000
Goods, etc.	185,000	185,000
Total for week	£290,000	£292,000
Aggregate for 50 weeks	15,451,000	15,476,000
Miles open	100	100
Inc. this week	£1,000	£1,000

London and South Western.

Week ending December 14	1913.	1912.
Passengers, etc.	£55,500	£54,000
Goods, etc.	15,997	16,310
Total for week	£71,497	£70,310
Aggregate for 50 weeks	£3,574,885	£3,574,885
Miles open	100	100
Inc. this week	£1,000	£1,000

Metropolitan District.

Week ending 14	1913.	1912.
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£100,000	£100,000
Miles open	100	100
Inc. this week	£1,000	£1,000

Midland.

Week ending 14	1913.	1912.
Passengers, etc.	£1,000	£1,000
Goods, etc.	£1,000	£1,000
Total for week	£2,000	£2,000
Aggregate for 50 weeks	£100,000	£100,000
Miles open	100	100
Inc. this week	£1,000	£1,000

Midland Great Western of Ireland.

Week ending 14	1913.	1912.
Passengers, etc.	£28,600	£28,600
Goods, etc.	£1,000	£1,000
Total for week	£29,600	£29,600
Aggregate for 50 weeks	£1,480,000	£1,480,000
Miles open	100	100
Inc. this week	£1,000	£1,000

North British.

Week ending December 14	1913.	1912.
Passengers, etc.	£28,600	£28,600
Goods, etc.	£1,000	£1,000
Total for week	£29,600	£29,600
Aggregate for 50 weeks	£1,480,000	£1,480,000
Miles open	100	100
Inc. this week	£1,000	£1,000

North Eastern.

Week ending 14	1913.	1912.
Passengers, etc.	£28,600	£28,600
Goods, etc.	£1,000	£1,000
Total for week	£29,600	£29,600
Aggregate for 50 weeks	£1,480,000	£1,480,000
Miles open	100	100
Inc. this week	£1,000	£1,000

North London.

Week ending December 14	1913.	1912.
Passengers, etc.	£43,425	£43,425
Goods, etc.	£1,000	£1,000
Total for week	£44,425	£44,425
Aggregate for 50 weeks	£2,221,250	£2,221,250
Miles open	100	100
Inc. this week	£1,000	£1,000

North Staffordshire.

Week ending December 14	1913.	1912.
Passengers, etc.	£43,425	£43,425
Goods, etc.	£1,000	£1,000
Total for week	£44,425	£44,425
Aggregate for 50 weeks	£2,221,250	£2,221,250
Miles open	100	100
Inc. this week	£1,000	£1,000

Rhymney.

Week ending December 14	1913.	1912.
Passengers, etc.	£43,425	£43,425
Goods, etc.	£1,000	£1,000
Total for week	£44,425	£44,425
Aggregate for 50 weeks	£2,221,250	£2,221,250
Miles open	100	100
Inc. this week	£1,000	£1,000

South Eastern and Chatham.

Week ending 14	1913.	1912.
Passengers, etc.	£43,425	£43,425
Goods, etc.	£1,000	£1,000
Total for week	£44,425	£44,425
Aggregate for 50 weeks	£2,221,250	£2,221,250
Miles open	100	100
Inc. this week	£1,000	£1,000

Taff Vale.

Week ending 14	1913.	1912.
Passengers, etc.	£43,425	£43,425
Goods, etc.	£1,000	£1,000
Total for week	£44,425	£44,425
Aggregate for 50 weeks	£2,221,250	£2,221,250
Miles open	100	100
Inc. this week	£1,000	£1,000



<sup>a</sup> Including North West Atlantic, South Atlantic, Indian, Pacific, and Arctic Oceans, and the Red Sea, Persian Gulf, and Mediterranean Sea.







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